

ST FORMAT



MultiTOS
The first multi-tasking
system for your ST
is here!

REVEALED! Atari's incredible
new 64-bit Jaguar

LEMMINGS 2

You
can't live
without
it

JAM PACKED!



**COVER
DISK 49**

NO COVER DISK?
THEN ASK YOUR NEWSAGENT FOR IT IMMEDIATELY

Discover
photo-realism
on your ST

future
PUBLISHING
Your guarantee
of value



ATARI ST SOFTWARE & ATARI LYNX 2



GAMES

GRAND PRIX 14.99	SILENT SERVICE 2 12.99	5 OF MONKEY ISLAND 13.99	3D GOLF 13.99	LEMMINGS 12.99	TZAR 10.49	PREMIER MGR 13.49	SOCCER TEAM 11.49	RAILROAD TYCOON 13.99	KNIGHTS OF THE SKY 13.99																																																																																																																																																																																																																																																																																																																						
MEGA-ACTION 13.49	FORCES 13.99	THUNDERHAWK 10.49	CHAMP MGR 12.99	JIMMY WHITES 15.49	ELITE 11.99	VROOM 12.99	BATTLE OF BRITAIN 13.99	SENGHI SOCCER 17.49	LEMMINGS 2 19.99																																																																																																																																																																																																																																																																																																																						
F-15 13.99	AIR SEA SUPREMACY 13.99	PRINCE OF PERSIA 7.49	AIR SEA SUPREMACY 13.49	ROBOCOP 3 11.49	RAINBOW COLours 10.99	POWER UP 10.99	HOLLYWOOD COLL 10.49	CHAOS STRIKES BACK 5.99	CIVILISATION 22.49																																																																																																																																																																																																																																																																																																																						
<table border="0"> <tr> <td>ADD AIR BUS</td><td>18.99</td><td>FANTASY WORLD DIZZY</td><td>7.49</td><td>LOTUS TURBO CHALLENGE 3</td><td>6.99</td><td>RAINBOW COLLECTION</td><td>10.99</td><td>TRANSMATICA</td><td>14.99</td></tr> <tr> <td>ADDONS FAMILY 1 (MIG)</td><td>11.99</td><td>PRINCE & THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 1 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 2 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 3 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>AIR BUS SUPREMACY</td><td>13.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 4 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 5 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 6 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 7 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 8 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 9 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 10 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 11 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 12 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 13 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 14 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 15 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 16 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 17 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 18 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 19 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 20 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 21 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 22 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 23 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 24 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 25 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 26 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 27 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 28 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 29 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> <tr> <td>ADVENTURE (THIRD)</td><td>17.99</td><td>PRINCE OF THE NEW</td><td>17.99</td><td>LOVING 3 THE FINAL CHALLENGE 30 (MIG) 10.99</td><td>10.99</td><td>ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY</td><td>10.99</td><td>TRON: A TREATISE (LIGHT PAZAR) 1.99</td><td>1.99</td></tr> </table>										ADD AIR BUS	18.99	FANTASY WORLD DIZZY	7.49	LOTUS TURBO CHALLENGE 3	6.99	RAINBOW COLLECTION	10.99	TRANSMATICA	14.99	ADDONS FAMILY 1 (MIG)	11.99	PRINCE & THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 1 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 2 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 3 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	AIR BUS SUPREMACY	13.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 4 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 5 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 6 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 7 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 8 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 9 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 10 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 11 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 12 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 13 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 14 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 15 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 16 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 17 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 18 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 19 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 20 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 21 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 22 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 23 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 24 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 25 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 26 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 27 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 28 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 29 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99	ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 30 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99
ADD AIR BUS	18.99	FANTASY WORLD DIZZY	7.49	LOTUS TURBO CHALLENGE 3	6.99	RAINBOW COLLECTION	10.99	TRANSMATICA	14.99																																																																																																																																																																																																																																																																																																																						
ADDONS FAMILY 1 (MIG)	11.99	PRINCE & THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 1 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 2 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 3 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
AIR BUS SUPREMACY	13.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 4 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 5 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 6 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 7 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 8 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 9 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 10 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 11 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 12 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 13 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 14 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 15 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 16 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 17 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 18 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 19 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 20 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 21 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 22 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 23 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 24 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 25 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 26 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 27 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 28 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 29 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						
ADVENTURE (THIRD)	17.99	PRINCE OF THE NEW	17.99	LOVING 3 THE FINAL CHALLENGE 30 (MIG) 10.99	10.99	ROBBIE MOORE: BARROW ISLAND, NEW ZEALAND STORY	10.99	TRON: A TREATISE (LIGHT PAZAR) 1.99	1.99																																																																																																																																																																																																																																																																																																																						

ATARI LYNX 2



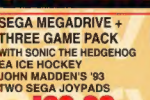
ATARI LYNX 2 + BATMAN PACK **99.99**
WITH BATMAN RETURNS GAME
FREE MAINS ADAPTOR

ATARI KIT CASE FOR LYNX	5.99	CONVEX MULTI-PLAYER	5.99
ACCESSORIES AND GAMES 10	10.99	CONVEX MULTI-PLAYER	5.99
BLACK CARRY BAG	5.99	CONVEX MULTI-PLAYER	5.99
FOR LYNX 2 WITH GAME	5.99	CONVEX MULTI-PLAYER	5.99
ADAPTOR	5.99	CONVEX MULTI-PLAYER	5.99
CARRYING BAG FOR LYNX 2	10.99	CONVEX MULTI-PLAYER	5.99
SUN VISOR SCREENPROTECTOR	7.99	CONVEX MULTI-PLAYER	5.99
CLEANING KIT FOR ALL	5.99	CONVEX MULTI-PLAYER	5.99
CONVEX MULTI-PLAYER	5.99	CONVEX MULTI-PLAYER	5.99
CONVEX MULTI-PLAYER	5.99	CONVEX MULTI-PLAYER	5.99

LYNX GAMES

ATARI KIT CASE FOR LYNX	5.99	CONVEX MULTI-PLAYER	5.99
ACCESSORIES AND GAMES 10	10.99	CONVEX MULTI-PLAYER	5.99
BLACK CARRY BAG	5.99	CONVEX MULTI-PLAYER	5.99
FOR LYNX 2 WITH GAME	5.99	CONVEX MULTI-PLAYER	5.99
ADAPTOR	5.99	CONVEX MULTI-PLAYER	5.99
CARRYING BAG FOR LYNX 2	10.99	CONVEX MULTI-PLAYER	5.99
SUN VISOR SCREENPROTECTOR	7.99	CONVEX MULTI-PLAYER	5.99
CLEANING KIT FOR ALL	5.99	CONVEX MULTI-PLAYER	5.99
CONVEX MULTI-PLAYER	5.99	CONVEX MULTI-PLAYER	5.99
CONVEX MULTI-PLAYER	5.99	CONVEX MULTI-PLAYER	5.99

SEGA MEGADRIVE



SEGA MEGADRIVE + THREE GAME PACK
WITH SONIC THE HEDGEHOG
EA ICE HOCKEY
JOHN MADDEN'S '93
TWO SEGA JOYPADS

SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99
SEGA MEGADRIVE + THREE GAME PACK	129.99

SUPER NES



SUPER NES + STARWING
WITH STARWING GAME
ONE JOYPAD
SAVE
£20.00 109.99

SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99
SUPER NES + STARWING	109.99

GAMEBOY

GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99
GAMEBOY + TETRIS	49.99

FOR A FREE 12 PAGE
COLOUR CATALOGUE
PLEASE CALL 0279 600204

ATARI ST PERIPHERALS

JOYSTICKS

BOLLERBICK HAND HELD JOYSTICK FOR AMIGA OR ST WITH AUTOFIRE FUNCTION

CHETAN BUG JOYSTICK 13.95

COMPETITION PRO EXTRA JOYSTICK (CLEAR BASE) 15.95

COMPETITION PRO STAR JOYSTICK 14.95

GRAVE JOYSTICK FOR ATARI ST WITH FOAM PADDED GRIP, ADJUSTABLE HANDLE, REMOVABLE FINGER RESTS, FIRE BUTTONS 25.43

LOGIC 3 SIGMA-MAT JOYSTICK 11.90

MINI COMPETITION PRO 8000 JOYSTICK 12.95

MINI COMPETITION PRO STAR JOYSTICK WITH AUTOFIRE 15.95

QUICKJOY FOOT PEDAL TRANSFERS ANY JOYSTICK FUNCTIONS TO FOOT PEDALS. IDEAL FOR COMBAT AND RACING GAMES. LIFETIME WARRANTY 11.99

QUICKJOY QAT JOYSTICK (MICROCONTROLLER) 7.99

FOUR PLAYER JOYSTICK ADAPTOR FOR ATARI ST 4.99

JOYSTICK EXTENDER CABLE FOR ATARI ST (1 METRE) 5.99

QUICKJOY TOP STAR JOYSTICK 12.95

QUICKSHOT 311A TURBO J. JOYSTICK 12.95

QUICKSHOT 137F PYTHON JOYSTICK 9.95

QUICKSHOT 148 INTREPID JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

QUICKSHOT 155 AVIATOR JOYSTICK 22.95

VERBATIM

3.5" DSD DISK

WITH LABEL

10 Pack £7.99

27.99 FOR 50

TELEVISION / MONITORS

GOLDSTAR 14" TELEVISION/MONITOR

WITH REMOTE CONTROL & SCART INPUT

FREE SCART LEAD 154.99

(STATE SINE, SESA OR AMGA) GIVES PIXEL PERFECT IMAGE

SONY 14" TELEVISION/MONITOR

MODEL KVM1400

REMOTE CONTROL

FREE SCART LEAD

£20 OFF A GAME OFFER

NEW MODEL

199.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

Special Reserve

The Games Club

Special Reserve members can have all this... can you?

READ "NRG" Regular Club Magazine

CHOOSE from our Huge Selection

BUY at Best Possible Prices

SAVE with our Special Deals

SAVE more with our XS Coupons

WIN £60,000 worth of prizes FREE

JOIN now from just £4.99

We only supply members but you can order as you join

There's no obligation to buy and you can be any age.

Just send in the form below or phone Sales on 0279 600204.

As a member of Special Reserve you'll receive regular issues of NRG magazine. NRG is our 48 page colour club magazine sent bi-monthly only to Special Reserve members. NRG contains:

1. The best selection of games, peripherals and hardware for all popular formats. We are official Sega, Nintendo and Sony stockists.

2. Reviews in colour and latest information on new products.

3. Charts and Release Schedule, to help you choose and plan.

4. The best prices. Just one purchase will save you your pining for.

5. Hundreds of Special Offers. Top games at prices you won't believe.

6. XS Super Savers. Money-off coupons worth over £100 a year.

7. £60,000 worth of prizes per year in our FREE-to-enter BIG TARGET COMPETITIONS. That's £10,000 worth in every issue of NRG, exclusive to members.

That's why over 460,000 people have joined Special Reserve, the biggest games club in the World!

0279 600204

Open to 10pm Wednesdays, Sat to 5pm Saturdays, 10pm to 5pm Sundays

10pm to 5pm Bank Holidays. Order Confirmation/Receipt sent for every order.

There is a SURCHARGE OF 50p PER GAME ON TELEPHONED ORDERS.

You can also Fax your order to us on: 0279 726842

We accept cash only on our after-sale service. 18 months service hours.

Inventory items games listed may not be available. Please phone sales on 0279 600204 to check availability before ordering. In the event of delay we issue refunds or request at any time prior to dispatch. We reserve the right to change prices without notice.

Registered Office & Club Shop: Unit 10, 2 South Block, The Mailings, Sawbridgeworth, Herts. MK42 9PS.

All prices include VAT and carriage to UK mainland. See base of order form for overseas surcharges. We supply hardware only to UK mainland addresses.

MEMBERSHIP FEES

6 MONTHS REAL MEMBERSHIP 4.99

ONE YEAR ANNUAL MEMBERSHIP 7.99

TWO YEARS WITH FREE FIRST YEAR ORDER 14.99

OVERSEAS UK MEMBERS 4.99

OVERSEAS NON MEMBERS 7.99

ALL PRICES INCLUDE UK POSTAGE & VAT

Checklist P.O. (Access/Mastercard/Switch/VISA) (Switch issue No.)

Card expiry date Signature

Charges payable to: SPECIAL RESERVE

P.O. BOX 847, HARLOW, CM21 9PH

Overseas Orders: Surcharge (PG or World) Software orders please add £2.00 per item. Non-software items please add 25%.

Hardware items supplied to UK mainland only. Overseas orders must be paid by credit card.

LEADS

16" LEAD FOR ATARI ST (STANDARD PHONO INPUT) 3.95

MONITOR LEAD FOR ATARI ST TO PHILIPS CM8030 MONITOR 3.95

SCART LEAD FOR ATARI ST TO PHILIPS TV (GIVES MONITOR QUALITY PICTURE) 3.95

SCART LEAD FOR ATARI ST TO SONY TV (GIVES MONITOR QUALITY PICTURE) 3.95

SCART LEAD FOR TV TO VIDEOGAMES 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

EXCEPTIONAL FINANCED QUALITY PICTURE) 3.95

MISCELLANEOUS

CLEANING KIT FOR COMPUTERS (INCLUDES VACUUM) 19.95

NULL WOODEN CASE 7.95

RF SWITCH FOR AMIGA, ATARI ST OR COMMODORE (SWITCH BETWEEN TV AERIAL, AND COMPUTER WITHOUT DISCONNECTING) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

SCART CABLE FOR AMIGA OR ATARI ST (CLEAR PVC) 3.95

PHILIPS

15" FST

COLOUR

TELEVISION/

MONITOR +

TELETEXT

MODEL 15PT161A

REMOTE CONTROL

FREE SCART LEAD

(STATE SINE, SESA OR AMGA) GIVES PIXEL PERFECT IMAGE

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

WITH

TELETEXT

MODEL 15PT161A

REMOTE CONTROL

FREE SCART LEAD

(STATE SINE, SESA OR AMGA) GIVES PIXEL PERFECT IMAGE

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

ALSO AVAILABLE WITH TELETEXT AT 249.99

CONTENTS



MULTI-TASKING ON YOUR MACHINE



We put MultiTOS through every conceivable test - discover if it lives up to expectations on **page 37**

LEMMINGS 2

Even if you just buy one game this year, *Lemmings 2* has to be it! We tell you exactly why on **page 66**

CAN YOU SEE THE LIGHT?

WHAT IS THE GAMES INDUSTRY PLAYING AT?



We find out what the major players in the games industry really think of the ST market **page 27**



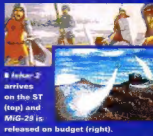
Create your very own raytraced pictures with our step by step guides and Cover Disk program - **page 19**



SCREENED THIS MONTH

Bully's Sporting Darts	page 79
Championship Manager '93	page 83
Cool World	page 74
D/Generation	page 81
Ishar 2	page 70
Hill Street Blues	page 78
Lemmings 2	page 66
Maniac Mansion	page 79
Metallic Power	page 80
MIG-29 Super Fulcrum	page 82
Operation Stealth	page 78
Reach for the Skies	page 72
War In The Gulf	page 75

Take part in the Battle of Britain in Virgin's *Reach for the Skies*.



Reacher 2 arrives on the ST (top) and MIG-29 is released on budget (right).



Take on the Iraqi dictator in this great Gulf War simulation.

ST ABC July - Dec 1992
62,210
Member of the Audit Bureau of Circulations

EDITORIAL
30, Monmouth Street,
Bath, Avon
BA1 2BW
☎ 0225 442244
Fax: 0225 465982
BBS: 0225 465977

ADVERTISING
Ground Floor,
Rivier House,
23 Higher Hillgate,
Stockport SK1 3ER
☎ 061 474 7233
Fax: 061 476 3002

DISTRIBUTION
UK Distribution
Future Publishing
☎ 0225 442244
Worldwide Distribution
MMC Ltd ☎ 0483 211678

SUBSCRIPTIONS/
MAIL ORDER
FUTURE PUBLISHING,
Somerton, Somerset
TA11 6TB
☎ 0458 74011
Fax 0458 74378

NTS

COVER DISK 49

ST FORMAT ■ ISSUE 49 ■ AUGUST 1993

WELCOME TO ST FORMAT!



Paula Richards,
EDITOR

This month has seen the release of some of the best ST games ever – **FORMAT** Gold winners *Lemmings 2* on page 66 (which is only the second ST game to achieve a rating of 98%), *Ishtar 2* (page 70) and the

excellent *War in the Gulf* (page 75). It has also seen the release of the Jaguar, Atari's 64-bit console (see page 7), and the long-awaited multi-tasking system, MultiTOS, which we examine in detail on page 37. There's also been a huge increase in the interest in raytracing programs – we show you how to start creating your masterpieces on page 19 and even give you the chance to win yourself £100.

There's also plenty of positive news from the games industry (page 27), plenty of hints and tips including a special feature on buying by mail order and over 25 pages of new reviews. Enjoy!



Time for an absorbing blast and the chance to express your creativity – and, of course, plenty more...

■ **Chaos Engine** – fully playable level of this **FORMAT** Gold-winning manic blast.



"Look left. No, right. Quick! Shoot. Aagh! That's that?" Manic arcade action in the *Chaos Engine* demo.

■ **Persistence of Vision Raytracer** – create beautiful photo-realistic pictures with the ultimate in raytracers.

■ Yes, it's that old chestnut – *Paw Man*. But, and this is the clever bit, it was created with *POV Raytracer*.

■ **Squish** – try and avoid getting squashed beyond recognition over 40 levels.

■ This is the type of game which you get annoyed at, walk away from it, and then sit down for just one last go.

■ **Disk Space** – discover fascinating facts and figures about your hard and floppy drives.

■ **MIDI files** – professional quality MIDI files from the Realfeel Groove Library.

FEATURES

19 CAN YOU SEE THE LIGHT?

Create incredibly life-like pictures by raytracing on your ST. We take a look at how the professionals work and give you some of the best tools and techniques.

27 IS THE GAMES INDUSTRY COMPLETELY BONKERS?

Find out why the industry's missing a huge money-spinning opportunity.

REGULARS

7 NEWS

Atari launch the incredible new 64-bit console.

12 COVER DISK

Exploit every last kilobyte with our guides.

45 REVIEW: HJ1001 INKJET

Is this inkjet printer anything special?

46 REVIEW: VGA MONO MONITOR

The budget choice for the Falcon's high res display?

46 REVIEW: HARD DRIVE UTILITIES

Can these help you improve your hard drive usage?

47 REVIEW: PEN MICE

Need a new drawing tool?

48 REVIEW: OPTICAL DRIVE

Save more files with this pricey drive.

50 SUBSCRIBE!

Guarantee that next year will be a winner.

52 BACK ISSUES

Order all the STFs you may have missed.

55 REVIEW: CRAZY SOUNDS

Improve your ST's ability to communicate.

55 REVIEW:

JOHN THE COMPOSER

Input the parameters and out comes the song!

56 REVIEW: IMAGECOPY 2

The perfect image utility?

57 NEXT MONTH

What does *ST FORMAT* have for you next month?

32 CREATIVE ARTISTRY

Meet the people who use their STs for a lot more than just blinking aliens up.

37 MULTITOS UNVEILED

Is this multi-tasking system all you'd expect?

41 BEWARE OF SHARKS

Don't get ripped off when you're buying mail order.

97 THE BYTECRUNCHER'S GUIDE TO ASSEMBLY

Learn how to keep up with your joystick's movements.

58 ST ANSWERS

All your technical problems solved.

65 SCREENPLAY

Some of the best games ever to reach your ST have been released this month.

77 WIN! WIN! WIN!

Your chance to win three of Empire's excellent war games as well as a field radio.

84 GAMEBUSTERS

Solutions, hints and tips to help you on your way.

88 CAPTAIN BLUNDER, THE ST GAMING WONDER

He's here to help solve all your games queries.

91 PUBLIC SECTOR

Discover the cream of the Public Domain software.

98 SPECIAL OFFERS

Save money with our essential bargains.

100 FOOTLOOSE AND FANCY FREE

It's not commercial, it's not PD – so what is it?

103 FEEDBACK

Write to us and tell us what you think about ST life.

105 ESSENTIAL CONTACTS

All those names and numbers you can't do without.

106 PIXEL PAINTING

If you've sent us your art, you could be the star of this month's gallery.

WIN! WIN! WIN!
Turn to page 77 now for your chance to win three of Empire's excellent war games and a 40s field radio!

TURN TO PAGE 12 FOR FULL DETAILS!

Ladbroke Computing



33 Ormskirk Rd,
Preston, Lancs,
PR1 2QP

Ladbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive customer service policy which involves testing of all hardware prior to dispatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices are correct at copy date 23/0/93 (while stocks last), and are subject to change without prior notice. All prices include VAT but exclude delivery.

How to Pay

You can order by mail Cheques/Postal Orders made payable to Ladbroke Computing. Or give your credit card details over the phone.

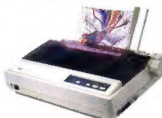
Delivery

Postal delivery is available on small items under £40 (Normally £3, phone for details). Add £7 for courier delivery. Next working day delivery on mainland UK subject to stock (£11 for Saturday delivery).

Open Mon-Sat 9.30am to 5.00pm.
Ladbroke Computing Ltd trading as Ladbroke Computing International

Fax: (0772) 561071
Tel: 9.00am-5.30pm (5 Lines)
(0772) 203166

Printers



Star	
Star LC100 Colour	£165.00
Star LC20	£124.00
Star LC24/100 Mono	£179.00
Starjet SJ48 Bubblejet	£210.00
SJ48 Sheet Feeder	£55.00
SJ48 Ink Cartridge	£19.00

Citizen

Citizen Swift 240 Colour	£270.00
--------------------------	---------

Hewlett Packard

HP Deskjet 510	£319.00
HP Deskjet 550 Colour	£620.00

Lasers

Seikosha OP104	£549.00
----------------	---------

- 512K RAM (Exp to 2.5Mb)
- HP Laserjet IIP emulation
- 14 resident fonts
- Centronics/RS232C/RS422
- 12 months on-site warranty

Seikosha 512K RAM upgrade	£89.00
---------------------------	--------

Seikosha Toner (2 units)	£19.00
--------------------------	--------

Seikosha Drum Unit	£79.00
--------------------	--------

Ricoh LP1200	£759.00
--------------	---------

Add £3 for Centronics cable and £7 for next working day courier delivery

DataPulse Plus



Hard Drives

- All Data-Pulse Plus Hard Drives are fully Autoboosting/Autoparking and are formatted, partitioned and tested before despatch, ready to "plug in and go"
- Full metal case measuring 300mm x 285mm x 51mm (w/dn), providing good shielding and monitor stand
- Only Highest Quality Quantum or Maxtor mechanisms used
- All drives come with full 12 months warranty and free expert help and advice over the phone

Data-Pulse + 85Mb	£349.99
-------------------	---------

Data-Pulse + 127Mb	£389.99
--------------------	---------

Data-Pulse + 170Mb	£429.99
--------------------	---------

Optical Drives

- Capable of storing over 20Mb of uncompressed data on a single 3.5" Floptical disk. Can read and write 720K and 1.44Mb 3.5" Floppy disks.
- Average access time 65ms. Data transfer rate of 200K per sec (6 times faster than Floppy disk).
- High quality Data-Pulse Plus Case and PSU.
- Ideal for fast data backup from hard drive. Diamond Back II compatible.

21Mb Floptical Drive	£399.99
Datapulse upgrade	£299.99

All the Above drives include one 21Mb 3.5" Floptical Disk. Phone for combination HD/Floptical units.

21Mb 3.5" Floptical Disk	£24.99
5 x 21Mb Floptical Disks	£114.95

Aries Upgrades

- Will fit any ST(F)/M or Mega ST
- Extremely compact in house designed Multi-layer circuit board smaller than a credit card
- Upgradeable in stages from the base 512K to 2Mb then 4Mb
- Solder in design for greater reliability
- Fully tested prior to despatch
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions and memory test disk.

512K Board	£39.99
------------	--------

2Mb Board	£79.99
-----------	--------

4Mb Board	£129.99
-----------	---------

512K SIMM's STE	£6.99
-----------------	-------

2Mb SIMM's STE	£49.99
----------------	--------

4Mb SIMM's	£94.99
------------	--------

2 x SIPP to SIMM adaptors	£3.00
---------------------------	-------

ST/Falcon Networks



Datanet Network Hardware

- Cartridge based high speed network solution
- Compatible with ST (F)/M, Mega ST, STE, Mega STE

PowerNet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background

DataNet with PowerNet	£99.99
-----------------------	--------

LanNet with PowerNet	£89.99
----------------------	--------

MidNet with PowerNet	£59.99
----------------------	--------

Prices quoted are for 1 Node. Each computer attached to a Network requires 1 Node. A LanNet device is required to Utilise the Lan Port on a Mega STE, TT or Falcon.

STE Packs

520 STE	£219.00
1MbSTE	£229.00
2Mb STE	£275.00
4Mb STE	£329.00
1040 STE Curriculum 2	£289.00

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy, up to 14Mb RAM. Displays 65536 colours from 262144 palette at 768 x 480 resolution
- 8 Channel 16 bit, higher than CD quality. Stereo sound sampling

FALCON 4Mb 65Mb HD	£959.00
--------------------	---------

Software

Silhouette	£60.00
Scanlite Accessory	£20.00
Diamond Back 2	£29.99
Diamond Edge	£34.99
Image CAT	£24.99
HD Turbokit	£4.99

PC Emulators



- Run PC Software on your ST
- Full installation instructions
- XT or AT Emulation

PC Speed STFM (XT)	£55.00
--------------------	--------

PC Speed STE (XT)	£55.00
-------------------	--------

AT Speed STFM (8MHz)	£129.00
----------------------	---------

AT Speed STE (8MHz)	£139.00
---------------------	---------

AT Speed C16 STFM	£189.00
-------------------	---------

AT Speed C16 STE	£199.00
------------------	---------

Repair Services

Our Service department can repair ST's in minimum time at competitive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We can fit memory upgrades, PC Emulators, Security devices, ROM upgrades, hard drives to Mega STE's etc.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

Please note: The minimum charge covers labour, any extra parts are chargeable.



Quotation	£15.00
Minimum repair charge	£35.25
Same day service	£15.00
STFM(E) PSU	£39.99
1Mb internal drive	£44.99
A/B Boot switch	£4.99
TOS 2.06 + Switch STFM	£65.00
TOS 2.06 + Switch STE	£65.00
Courier Pickup	£11.00
Courier Return	£7.00

Phone for price and availability of ST spares

Monitors



Philips 8833 MkII £199.99 includes 12 Months on-site warranty (Mainland UK) and free Lotus Turbo Challenge II game.

Hi-Res Mono Monitor £139.99 High quality 14" SVGA monitor with ST adaptor. Fully compatible with all ST Hi-Res Programmes

Philips 15" FS17TX TV £259.99 Fully Remote control 60 channel. Fast text TV with Scan input for near monitor quality display.

Colour SVGA Monitor £239.99 High quality Colour SVGA Monitor 28 bit pitch. For use with Falcon.

Falcon VGA Adaptor	£9.99
--------------------	-------

Falcon ST Monitor Adaptor	£99.99
---------------------------	--------

Philips SCART to ST/STE	£9.99
-------------------------	-------

8833 Mk II to ST/STE	£9.99
----------------------	-------



Street Fighter 2 leads ST sales surge

by Rob Mead

Street Fighter 2, the world's most famous beat-'em-up has sold a phenomenal 22,000 copies on the ST, despite the games industry's negative attitude towards Atari.

Bridgett Hirst from US Gold says the company are very pleased the game has done so well on the ST. "This has made US Gold aware there is a market out there."

She attributes a large portion of Street Fighter 2's success to the high quality of the game and the marketing muscle behind it, which

"It proves that when there's enough hype about a game it can sell on the ST"

Bridgett Hirst, US Gold

effectively turned the *FORMAT* Gold winning beat-'em-up into a household name. "It proves that when there's enough hype about a game it can sell on the ST," she said.

Microprose are equally convinced about the ST's future -

■ The success of Street Fighter 2 has changed the attitudes of some software houses towards the ST.

they've already managed to sell over 20,000 copies of *Civilization* on the ST since its release in March. An incredible 50,000 copies of *Formula One Grand Prix* have also been sold since its release last year. The company told *ST FORMAT*, "There's still a market out there for high quality ST games and that's what we're in the business of producing."

Such confident statements from US Gold and Microprose reflect what people in the games industry feel about ST sales - that high quality games, backed up with plenty of advertising are always going to sell well. Renegade Software have also had some notable successes over the last couple of years with games like *Fire and Ice*, *Magic Pockets* and, especially, *Sensible Soccer* which has sold over 28,500 copies on the ST alone.

Other companies like Daze and Gremlin Graphics are reluctant to give out sales figures, but are both extremely pleased with sales

■ The increase in ST games sales is largely because of recent releases such as Chaos Engine.



■ Street Fighter 2 hits the games industry in the face with massive sales on the ST.



of games like *Ishar* and *Premier Manager* on the ST. According to Daze's Cliff Guy, their main problem is that they specialise in role-playing games which are inevitably

"High quality games backed up with plenty of advertising are always going to sell well on the ST"

going to have lower sales than mass market releases like *Street Fighter 2*. Guy reckons a good game for Daze would sell about 10,000 copies - which is still a substantial amount. Dorian Bloch of

■ Bridgett Hirst from US Gold says the company are very pleased with the ST sales of Street Fighter 2.



Gallup - the pollsters responsible for compiling the *ST FORMAT* chart - also reports an increase in ST games sales from 6% to 10% of total sales, largely thanks to the recent release of quality games like *Chaos Engine*, *B17 Flying Fortress* and *Lemmings 2* - see page 10 for more details.

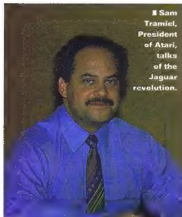
Despite such strong and encouraging evidence Virgin Games remain unconvinced about the potential of the ST market. For them sales on games like *Jimmy White's Whirlwind Snooker* and *Pool* have been "disastrous," according to sources close to the company, although they are predicting massive sales for *Dino Dini's Goal* when it is released later on this year.

With great games like *Street Fighter 2*, *Civilization* and *Sensible Soccer* proving the ST's worth as a games playing platform, it's only a matter of time before the software houses are going to realise that the ST is not going to lie down and die quietly just yet.

■ Turn to page 27 to find out exactly what the rest of the games industry really thinks about Atari and the ST.

■ Since its release in March, Microprose's Civilization has sold 20,000 copies on the ST proving that there's still an ST market out there.





■ Sam Tramiel, President of Atari, talks of the Jaguar revolution.

by Paula Richards

The Jaguar, Atari's 64-bit home entertainment system, has been launched at the summer CES held in Chicago. The machine, which is four times faster than a standard ST and the 16-bit consoles which presently dominate the market, is expected by Atari to become the market leader in the new cycle of 64-bit machines.

Bob Brodie, Director of Communications at Atari US describes the Jaguar as "a billion dollar baby" and is confident that Atari will be doing everything right this time to ensure maximum sales.

They recognise that to get ahead in a market presently dominated by huge companies with an equally huge budget, they need to "leapfrog the competition," in

terms of value for money and superb technology. Sam Tramiel, President of Atari, takes huge pride in the technological advancements the machine makes, "The Jaguar system will revolutionise the state of home entertainment as we see it today, the idea of a 64-bit system is earth-shattering."

The machine certainly has impressive technical specifications - 64-bit technology, a palette of 16.7 million colours to give 24-bit colour, a Digital Signal Processor chip specifically for the 16-bit stereo CD quality sound and the ability to expand it in all sorts of directions, whether your interest be to listen to music via digital audio tape, view your holiday snaps on Photo-CD or connect to modems.

All this for less than \$200!

To make sure of their position, particularly in view of their past mis-

takes and the slow economy, Atari plan a very competitive price point. Peter Walker, Atari's UK Press Officer commented, "The Jaguar will be aggressively priced to grab a

"We have a huge technological lead with the Jaguar that we must take advantage of"
Peter Walker

large volume of sales early to establish brand leadership - the US price is going to be around the \$200 mark including a game and power pad controller."

Games will run on MegaCarts and although the price for these

hasn't been confirmed, Walker confirmed that they would probably be in line with the aggressive pricing policy of the Jaguar - "around the £20 mark."

There is also to be a very strong promotion campaign initially centred in New York and San Francisco, widening to the rest of the US in time for Christmas and reaching Europe early in 1994. Walker explained, "We are going to mount a massive advertising campaign in the UK, with a massive financial investment for the UK market. Every marketing option will be considered to achieve volume sales. We have a huge technological lead with the Jaguar that we must take advantage of."

Pressed further about what form the promotion would take, whether, for example, there was to be an official Atari branding character, Walker would only say, "That

MICROPROSE AT WAR AGAIN



■ Pilot 12 different aircraft from the entire history of war aviation in Dogfight, a combat sim with a difference.

Flight sim specialists Microprose have announced details of two new air combat games for your ST.

Dogfight enables you to choose from 12 different aircraft, from World War One Sopwith Camels to hi-tech F16A Fighting Falcons, and engage the enemy in a finger-twitching dogfight. You can even choose planes from different periods and make them battle it out - can you imagine a Spitfire locked in combat with a Sea Harrier? The game also features six combat scenarios which enable you to fly real-

istic missions in the Falklands or with the Red Baron.

GunsHIP 2000 is a helicopter simulation which enables you to fly up to five helicopters at once in daring missions over central Europe and the Persian Gulf. The game features training, single and multiple helicopter modes as well as a mission editor for creating your own scenarios.

Microprose have given no firm release dates as yet but both games are expected to be released later this year and they are set to retail at £34.99 each.



■ Take control of the latest in air war technology with GunsHIP 2000, a new helicopter sim from Microprose.

SONY TAKE OVER CREATORS

Sony Electronic Publishing have acquired Lemmings 1 and 2 creators Psychonosis, one of the biggest software developers and publishers in the UK.

The deal marks the Japanese electronics giant's entry into the European leisure market and will

act as the base for the European management team.

Mark Blewitt, Marketing Manager of Psychonosis, explained that it wouldn't actually make much of a difference to the ST market - either positively or negatively - but that it did mean that Psychonosis would



LEAPING AHEAD OF THE COMPETITION

The capabilities of the Jaguar are reportedly quite amazing – not surprising considering the incredible technology that's behind it. The heart of the system is Atari's own reduced instruction set (RISC) processor which is a relatively new type of processor which uses simple, fast internal instructions to process data rather than the more complex instructions used by traditional microprocessors. So, as well as operating four times faster than any console presently available, it has a 24-bit palette which can supply over 16.7 million colours. It also features shaded polygons – like those in the graphically stunning shoot-'em-up *Starwing* on the Super Nintendo – which can be generated while the game is running. It also has the ability to perform real-time texture mapping.

Like the Falcon, the Jaguar has a Digital Signal Processor although this time it's being used specifically to produce 16-bit stereo CD quality sound. To make the most of the "multi-media" applications the DSP can

process other sounds and human voices at the same time. You can also expand the Jaguar since it includes a 32-bit expansion port enabling you to connect your machine into cable and telephone networks – and it has a digital signal processing port so you can use modems and connect your machine to digital audio accessories like DAT players. On top of all this there's a double speed CD unit that is being developed which you'll be able to use for games, audio CDs, including those with graphics and Kodak Photo CDs – the Photo CD compatibility is to be built into the Jaguar CD-ROM.

Atari have recently licensed Cinepak – advanced video compression technology – from SuperMac Technology Inc. This software stores video footage on CD-ROM at very high compression rates enabling full motion video to be used in games and other CD-ROM applications. Cinepak is used by Apple for their QuickTime standard, known as Apple Compact Video.

is an attractive option that we are considering... the marketing teams are working on several ideas."

Games, more games

There are likely to be around half a dozen titles available for the Jaguar when it first comes out although there are plenty more games under development. Even though software developers are bound by non-disclosure agreements, we can reveal that Jeff Minter, best known for his interest in llamas and the creator of *Llamazap* for the Falcon, has had a Jaguar since the end of last year and is very enthusiastic about its capabilities.

As well as games from third party publishers, Atari are also planning to release versions of *Cybermorph*, *Alien vs Predator*, *Jaguar Formula One Racing*, *Battlezone 2000* and *Tempest 2000*. As

yet, however, no developer has received a fully-finished machine – they just have the innards housed in a basic case; it's very much a

"The Jaguar will be aggressively priced to grab a large volume of sales early"
Peter Walker

cosmetic consideration, according to Brodie, although it is described as having a "futuristic" design.

Watch this space because as soon as we have any physical view we can show you, we will... until then, roll on the autumn.



■ Jeff Minter is one of the developers for the Jaguar – he's so keen on the machine he even reads all about it when he's taking things easy.

COLIN GOES ONE STEP BEYOND

Cheesy hero Colin Curly gets the sequel treatment in *One Step Beyond*, Ocean's latest licence release.

The hero of *FORMAT* Gold game *Push Over* returns for more romps around a puzzle-filled maze and promises to include lots of in-game advertising for a well-known cheese snack. *One Step Beyond* features 12 new platforms, each with 89 levels, and is set for release at the end of July, price £25.99. Phone Ocean ☎ 061 832 6633 for more information.



■ Colin Curly's addiction to corn snacks gets him sucked into his computer in *One Step Beyond*, Ocean's new puzzle-'em-up.

■ The hero of *FORMAT* Gold game *Push Over* makes a comeback in a puzzle-filled maze in Ocean's *One Step Beyond*.

OF LEMMINGS

have a bit more money to spend on new developments and projects.

Psychosis are still going to be developing games under their own name but are also planning to work on video games and CD-ROM titles for Sony's game division, Sony Imagesoft. Following the recent

Queen's Award for Export 1993, Jonathan Ellis, Managing Director of Psychosis, thinks that, "the alliance will enable us to benefit from each other's strengths and talents."

Psychosis are heavily into developing CD-ROM titles for the Sega Mega CD, IBM PC compatibles and

the Macintosh. It also seems more than likely that Psychosis may be considering developing CD-ROM titles for the Falcon in the near future. The Falcon and MultiTOS are CD-ROM compatible and as such offer great potential for developers like Psychosis to take advantage of.

SNIPPETS

Falcon bother

If you have a Falcon with an internal hard drive you should know that there is a small bug in its operating system that can lead to loss of hard drive data.

If partition C is nearly full and a file larger than the available space is copied to it, the data overwrites the first cluster of partition D. This deletes the directory information of drive D resulting in a lost partition. Atari are aware of the problem and a fixed version of the Falcon hard disk driver software should be ready now. Contact Atari on ☎ 0753 533344.

This problem only occurs if you have almost filled a partition and you try to copy files that are larger than the space available. To avoid this happening always check that you have enough room. If you are decompressing ZIP, LZH or ARC files then use the archive utility programs check on the uncompressed size of the data. Another way of protecting your data is to use Diamond Edge 1.4 to save the root sector, file allocation tables (FATs) and root directory information to floppy disk on a daily basis. It only takes a few seconds to save the information, and while this is not as foolproof as a full backup you can generally recover every thing. Diamond Edge is available from MS&P for £49.95.

HiSoft take on Microdeal

Following the acquisition of AWT HiSoft have taken over the product line and future business of Microdeal. David Link of HiSoft explained "This is a logical move since it is natural for us to produce the complete AWT product line in-house." HiSoft continue to support the ST and the Falcon.

On-Line to the world

If you have an On-Line account to play games via modem, you can now access Internet without having to pay a penny.

Internet is a global information service which enables you to access all kinds of information and to log on to other systems such as NASA, London University, King's College and the CIA. The number to call to log on is 081 539 6763 or toll ☎ 081 558 6114.

Fractal mode

Phenix Music are now distributing *Mental Music*, the MIDI music generator and processor for the ST. It's available direct from them for ☎ 071 377 6294.

Stand corrected

In our review of *Geigis' Breakthru* in STP 47, we stated that you couldn't change track variables while music was playing. This is not the case as the mouse is only disabled when samples are being used, and even then, variables can be changed with the *Breakthru* software.

THE TOP TWENTY

Your guide to the best-selling ST games throughout the UK

Pos	Last Pos	Game	Publisher	Price	STF Rating
1.	(4)	Sensible Soccer 92/93	Renegade	£25.99	91%
2.	(-)	Chaos Engine	Renegade	£25.99	94%
3.	(-)	B17 Flying Fortress	Microprose	£34.99	87%
4.	(2)	Premier Manager	Grenlin	£25.99	85%
5.	(-)	Lemmings 2	Psygnosis	£29.99	96%
6.	(1)	Street Fighter 2	US Gold	£27.99	91%
7.	(7)	Pirates	Kixx XL	£12.99	74%
8.	(-)	World Class Cricket	Audiogenic	£29.99	85%
9.	(5)	First Division Manager	Codemasters	£7.99	64%
10.	(3)	Civilization	Microprose	£34.99	92%
11.	(11)	Prince of Persia	Hit Squad	£7.99	90%
12.	(-)	F19 Stealth Fighter	Kixx XL	£16.99	96%
13.	(20)	Future Wars	Kixx XL	£12.99	87%
14.	(18)	The Simpsons	Hit Squad	£9.99	74%
15.	(9)	Spellbound Dizzy	Codemasters	£7.99	71%
16.	(-)	Indiana Jones: Graphic Adventure	Kixx XL	£14.99	77%
17.	(-)	WWF Wrestlemania	Hit Squad	£9.99	63%
18.	(-)	Jimmy White's Whirlwind Snooker	Virgin	£29.99	84%
19.	(13)	Treasure Island Dizzy	Codemasters	£4.99	82%
20.	(14)	Formula One Grand Prix	Microprose	£34.99	81%

Chaos Engine and Lemmings 2 zoom straight into the top five this month, but fail to grab the top slot thanks to a surge in support for Sensible Soccer. Surprisingly, Sleepwalker has dropped right out of the chart, after debuting last month at number 17. US Gold continue to make a strong showing with their mid-priced Kixx XL label with Pirates, Indiana Jones and F19 Stealth Fighter all receiving strong chart placings.



LANKHOR FOLLOW THE FALCON



■ Don't infiltrate the Black Sect all dressed in white... they'll spot you.

French sofites Lankhor are set to release two new adventure games for the Falcon and ST over the coming months.

Black Sect is a gothic adventure game set in the Yorkshire village of Hobbale. Your grandfather is mysteriously murdered and his precious spell book stolen. The Black Sect of the title soon starts to terrorise the region and only you can stop them. The game features 34 different locations - 17 inside and 17 outside - as well as full character animation.

Sukiya is the long-awaited sequel to *Maupiti Island* and stars Jerome Lange, the famous French detective. This time Lange enters

the cryptic world of a Zen monastery, hoping for a few weeks' recuperation, but the calm is shattered by the murder of a retired professor in the monastery's laboratory. It's up to you to discover who committed the crime in this *Name of the Rose* style mystery.

However, Lankhor have no plans to release either a Falcon or ST version of *Vroom 2* in the UK. Domark already have the rights to the game - renamed *F1* - and are going to be releasing it in August.

Both Falcon and ST versions of *Black Sect* are set to be released at the end of July through UBI Soft, whereas *Sukiya* is scheduled for release two months later.



■ Jerome Lange, the famous French detective from *Maupiti Island* is set to return in *Sukiya*, out soon.

GOSSIP

No new Falcon case!

While rumours are flying around in Atari UK about the proposed design of the new Falcon case, Bill Brodie, Director of Communications at Atari US suggests that the Falcon III will remain in its present STE-style casing. This machine is the base model for the Falcon family and he says that it won't be until there are additional members that the casing will change - and that's only likely to happen for the higher spec Falcons.

Modern wars

Large warfare has broken out between some of the major modern manufacturers in the US.

Modern manufacturer Hayes Micro-Computer Products Inc has filed 11 rival modern manufacturing suits including Supra Corporation, West Data Products Inc and Tandy Corporation. Hayes says that the reason for this action is that all these companies in question manufacture 'Hayes compatible' modems, that use the Hayes Command Set without a license from Hayes.

Hayes are seeking an unspecified amount of damages and a court order to force the companies to stop infringing the Hayes patent. Hayes Corporation were surprised when they were contacted because they were under the impression that they already had a license from Hayes. They are now threatening to sue if they have a problem.

The Hayes Command Set is a series of commands sent by your modem software to the modem, enabling it to be configured to suit your computer. They tell the modem what to do and when to do it. All comms software includes the Hayes set of commands as standard.

Get involved

Two officially Atari-recognised groups have been busy polishing up their services. First there's the new Falcon Owner's Group, which produces a Falcon-specific quarterly magazine with a disk - contact them on 0275 843241 or fax 0275 843243. Then there's the ST Enthusiasts Newsletter, which aims to emphasise Public Domain, later cater for the 'enthusiast who has passed the 'gore wild' stage. For more info you can contact the newsletter on 0202 527620.

Lucky dip

How can you get your hands on a full copy of *Calamus SL* for just £5.95? Easy, enter PJH Publishing's lucky dip and cross your fingers.

PJH have decided to get rid of 4,000 disks, which take up too much room in their offices, by selling them off at £3 a piece. The catch is that you can't choose which programs you want - you get what you're given. For more details, write PJH on 02480 433465.

RESERVE YOUR COPY OF ST FORMAT

Cut out this form or a photocopy and hand it to your newsagent

Please reserve/deliver **ST FORMAT** magazine each month, starting with the September issue, on sale Tuesday 10 August.

Name:

Address:

Phone Number:

To the Newsagent: **ST FORMAT** is published by Future Publishing 0225 442244

- **FREE DELIVERY** Next Day Anywhere in the UK mainland
- **WINDOWS 3.1** Free Windows 3.1 driver with Starter Kit
- **2 YEAR WARRANTY** (including the dot matrix printer head)
- **FREE HELPLINE** Technical support during office hours
- **FREE STARTER KIT** With Citrus dot matrix printers from Silca



FREE STARTER KIT INCLUDES:

- 3.5" Disk with Amiga Print Manager
- 3.5" Disk with Windows 3.1 Driver
- 1.8 Mbit Parallel Printer Cable
- 200 Sheets of Continuous Paper
- 100 Continuous Tractor Feed Address Labels
- 6 Continuous Envelopes on Tractor Feed

SABCA PRINT MANAGER V2.01

KIT VALUE £49

STAND OFFER

PRINTER NOT
INC. BED

**LOW
PRICE**

**CITIZEN PRINTER
STAND**

For Swift 9, 90, 24, 246,
500, 240 and 224 Printers

- Holds complete with Citizen's
power supply handset.
- Robust & Durable Construction
- Stems space and provides continuous
accessory from top and side
- Compatible with laser and metal
base

Price

- Carpal-Proof Inkjet 80 column
- 1600ps Draft
- 125cps Nt G
- 30 Nozzle Head
- Wagger Guard 4750
- 8K Printer Buffer
- RAM Card Options
- 3 Fonts Built-in
- Optional HP Compatible Font Cartridges
- Parallel and Serial Interface
- Graphics Resolution 300 x 100dpi
- HP Desktop Plus Emulation
- 2 Year Warranty



2 YEAR WARRANTY

NEW LOW PRICE

RRP £499

TOTAL VALUE £496

SAVING £217

SHAG PRICE £279

01454 733 438 996 2000

PRINTERS

- Color: 5" x 7" 24 pin 80 pages
- 20 cps SD 216 cps Draft 2 cps
- 8K Printer Buffer 24 pin 80 Fonts
- Parallel Interface
- Graphics Resolution 360 x 360 dpi
- Epson 881 & 882 P70 Emulations
- Quarter Printing and Auto Set Facility
- Ultra Quiet Mode - 430B(A)
- Color Kit (Optional Extra - See Retail)

SWIFT 200	
A STARTER KIT	C218
TOTAL VALUE	C308
SAVINGS	
SALE PRICE	C172

£179

[illegible]

CITIZEN 120D+	
RRP	£188
SLICK STARTER KIT	£48
TOTAL VALUE	£236
SAVING	£33
SLICK PRICE	£199

£115

24 PIN 300 CPS 60 COUNTRY

2 YEAR WARRANTY

FREE (UK) 1-800-800-8000

BROTHER

BROTHER 340 MOBILE

[illegible][illegible]

- **FREE OVERNIGHT DELIVERY** On all hardware orders shipped in the UK mainland
- **TECHNICAL SUPPORT HELPLINE** Team of technical experts at your service
- **PRICE MATCH** We normally match competitors on a 'Same product, Same price' basis
- **ESTABLISHED 14 YEARS** Proven track record in professional computer sales
- **£12 MILLION TURNOVER** (with 60 staff). Solid reliable and profitable
- **BUSINESS • EDUCATION • GOVERNMENT** Volume discounts available 061-306 0888.
- **SHOWROOMS** Demonstration and training facilities at all our stores
- **THE FULL STOCK RANGE** All of your requirements from one supplier
- **PRICE CATALOGUES** Will be mailed to you, with offers • software and peripheral details
- **PAID FOR** Many more...

Before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will take a month or two after you have made your purchase, when you may need to contact us for help. If you buy from a company that is not the company you buy from, you will have to contact us with details of new products at Silca Systems. We insure that you will have nothing to worry about. We have been established for almost 14 years and with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. (But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silca Systems Service".)



MAIL ORDER HOTLINE
081-309 1111



**SILICA
SYSTEMS**

MAIL ORDER: Chips Milk Bar 1/2lb 50p	1-18 Mues, high 40p	A12 40p	061-300 1111
LONDON SHOP Milk Bar 1/2lb 50p	52 Tottenham Court Road	W1P 0BA	Tel: 071-586 4200
LONDON SHOP Milk Bar 1/2lb 50p	Selhursts 155 Mount Ararat	Orford Street, London W1A 1AB	Tel: 071-629 1234
SICUP SHOP Milk Bar 1/2lb 50p	The News	Walthamstow, Essex DA14 4DX	0201-591 8111
ESSEX SHOP Milk Bar 1/2lb 50p	Kardies One Hour High Street	Southend-on-Sea, Essex SS1 1JA	Tel: 0702 466030

PLEASE SEND A BROCHURE ON THE CITIZEN RANGE

Mr/Ms/Ms	Mr/Ms	Date
Company name		
Address		
	Postcode	
Tel. Home	Tel. Mobile	



COVER DISK 49

It's square, it's blue and Chris Lloyd's crammed it with all sorts of goodies for you to enjoy

Chaos Engine

BY: RENEGADE
 RESOLUTION: LOW ONLY
 FOLDER: CHAOS
 FILES: CHAOS_1.TOS
 CHAOS_2.TOS
 UNCOMPRESSED SIZE: 333K
 GET STARTED WITH: SEE BELOW

Chaos Engine is undoubtedly one of the best games to come along for ages, but if you don't want to take our word for it, have a blast with this superb playable demo. Be warned though, your joystick is going to come in for a battering.

This demo runs on STfms with 1MByte or more of memory and on all STs regardless of memory. The demo has been archived into two files to make copying easy. Get a blank disk ready and copy the files CHAOS_1.TOS and CHAOS_2.TOS to it. Now run each of the programs in turn and watch the files decompress themselves to your new disk. Now boot up your ST with your new disk in the drive and the demo loads automatically.

The first demo disc on you have to take a swifter to have your ST

This month's selection of amazing programs

Chaos Engine

Brilliant playable level of the hottest new game going.

Uncompressed

size: 333K Page 11

POV Rastocor

Creates incredible perspective

graphics.

Uncompressed

size: 276K Page 16

■ Raytracing feature - page 18.

Squish

Fast, devious and completely maddening arcade game.

Size: 95K Page 11

Radical MIDI Mix

Professional quality MIDI files.

Size: 18K Page 14

Cover Disk Back-Up

Clones your Disk for ever.

Size: 13K Page 14

Disk Space

Check the free space on your hard and floppy drives with this rather nifty utility.

Size: 20K Page 11

Assembly Listing

More delving into the workings of assembly coding.

Size: 18K Page 14

■ This listing ties up with our tutorial on page 87.



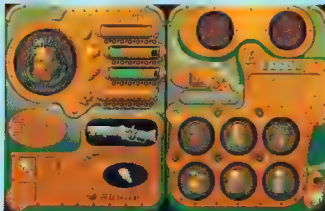
control the second player or to hook up another joystick and let a friend join in. Move the joystick up and down and press <Fire> to select your choice. You then enter

the character selection screen in the full game you can choose between six dubious characters, in this demo, however, you are limited to the Navvie and the Gentle

man. The Navvie is slow but tough and start running around shooting and shooting in all directions. Get yourself ready because *Chaos Engine* is a hectic and taxing blast.

man. The Navvie is slow but tough while the Gentleman is agile and has bullets that always go through enemies. Use the joystick to select which one is going to be your alter-ego, and, it's on to the game.

Chaos Engine is an eight-way shooter with loads of things to shoot and goodies to pick up. It is all joystick control and relentlessly frantic. The demo features a complete level for you to battle through. Your mission is to zap all



■ Your pick of protagonists - in the demo you only have enough money to select the Navvie and the Gentleman, an unlikely pairing indeed.

■ Hunt around a bit and you'll find this little glade full of juicy bonuses. Grab those extras and blast the nasties before your companion does - the absolute cat. *Chaos Engine* has all sorts of extras to pick up from money to extra lives and special weapons.



Before you take even one step further, read this carefully

Tread carefully

To keep your STX Cover Disk safe, write-protect it by moving the black tab so you can see through the hole. Nothing can now be written to your Disk. Write-protection also keeps your Disk safe from viruses.

Study the map

Space on the Cover Disk pages is limited, so you may find text files for some programs on the Disk. These

have the file extension .DOC. It's always a good idea to read these for more information on a program. Double-click on them and select Show to display the text. If text disappears off the screen when you try to read a DOC file in low res, change to medium resolution and try again.

Avoid the pitfalls

To keep your STX FORMAT Cover Disk safe you should make a backup, so if

anything goes wrong, you still have the original. Because we use a special disk format to squeeze programs on to the Disk, you can't do a direct disk to disk copy. We've made life easy for you, however, with this Backup program. Follow the instructions on page 14 and you can't go wrong. Now there's no need to risk damaging or losing your disk again!

Some programs are compressed to fit on the Disk and cannot be run

directly from it. Follow the instructions here and it'll all be fine.

Do I need a disk drive?

We use a double-sided disk format. If you own a single-sided drive, you can't read STX Cover Disks, or much of the new software since single-sided drives are obsolete.

You are strongly advised to buy a new double-sided drive which can cost as little as £35.

THE DEVIL'S PLAYGROUND

Each level of Chaos Engine takes place over a different landscape of obstacles, nasties and collectables. There's always more than one way through a level as well as hidden areas for you to find

A node - shoot it to open up the exit

The character's lives left



The green bar is your current health, the yellow bar indicates how much you've already lost

The number of nodes you still need to blast before you can go through the exit

How much money you've collected

These mean and moody fighters are, in fact, you and your chum

The character's score

The character's special ability: the little orange bars show how many you've got to use

the nodes - tall funny-looking white things that change shape when you shoot them - and make it to the exit in a reasonable condition. Each character has a special weapon he can use - hold down the <F> button until the little box in the status panel starts flashing

then release it to activate it. The Gentleman starts off with a map while the Navie totes much more useful bundles of dynamite

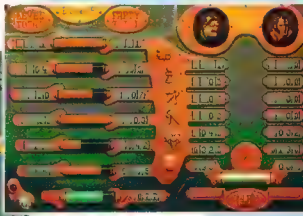
Collecting the silver keys opens up new areas of the level for you to explore and the gold keys let you into bonus areas. There is

more than one way through the level. If you reach the exit you get a screen showing how well you did.

What more do you need to know? Oh yes, don't forget to dodge the bullets and fire

plenty back. *Chaos Engine* is an absolute cracker of a game, so get stuck into it - be warned though, you'll soon be crying out for more.

■ Eek! Loads of nasty things. The little bugs are right aye, they move very quickly and aren't easy to shoot down. Watch out for the green tree things, they fire in all directions - luckily they don't move. The best thing here is to cross your fingers and shoot like crazy.

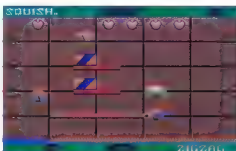
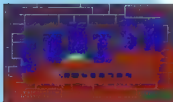


■ If you make it through, then you get the lowdown on how you did. You seem to have taken a short-cut and missed most of the monsters.

Squish

BY: TOM HARRIS
FOLDER: SQUISH
FILES: README.DOC,
SQUISH.TOS AND SQUISH.DAT
FOLDER:
TOTAL SIZE: 96K
READ: README.DOC
GET STARTED WITH:
SQUISH.TOS

This should drive you batty in no time. *Squish* is a simple and incredibly infuriating arcade game where you battle it out with strange creatures to see who can squish who first. It's all joystick controlled and



Here you are just about to deliver the final blow on one of the devilish head things. Doesn't it feel good?

out for the water, that's lethal too.

The beasts are very fast moving and you need to be quick and clever to succeed

easy to get into, run *SQUISH.TOS* and prepare for frustration city. From the title screen you can select the start level. Press the Fire button to start the game. The idea is to squish all the little beasts. You can jump on them or squish them with the blocks.

If you're standing next to a block then pressing <Fire> enables you to slide them about, watch out for falling blocks though. You also need to watch

Squish has been linked to several cases of uncontrollable gibberin' - it all seems so easy at first but then...

in going through any of the levels without difficulty.

If you reach all the platforms before they disappear then you get a well deserved bonus. There are 40 levels in all and only the most hardened games players are going to see all of them. It's a game that grips you and if you're not careful you'll have to be dragged away from you *ST* screaming. "Just one more go, I nearly had them all that time, the swines!"

Disk Space

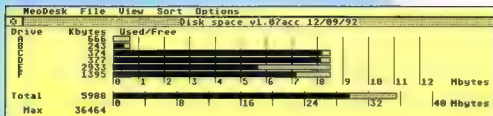
BY: MARK BRINKWORTH
RESOLUTION: HIGH AND MEDIUM
FOLDER: DISKSPC
FILES: DISKSPCA.DOC,
DISKSPCB.ACC,
DISKSPCA.PRG
TOTAL SIZE: 30K
READ: DISKSPCA.DOC
GET STARTED WITH: SEE BELOW

You can tell how much space you have on a disk from the Desktop easily enough, but it doesn't really tell you much. The thing is, when you've just completed a complex piece of work and you need to know if it'll fit on your disk without quitting the program you're running, it's not a lot of use. *Disk Space* solves all that by giving you a smart graphical chart of the available space on all your drives.

There are two versions, a normal program and a Desk Accessory version with the file extender *ACC*.

This version needs to be in the root directory of your boot disk to load. You can then get an instant read-out on your drives by selecting it from the Desk menu.

If you click on the little bars you get information on the BIOS parameter block, which tells you about the disk's construction. Clicking on the bottom bar shows you the size and free space in numerical form. It's an ideal utility for hard drive systems. Click on the little box at the top left of the window to escape the program.



Just what you always wanted, a smart bar chart showing you the free space on all your disk drives. Well, apart from good health, happiness and loads of money, that is. Oh, and a nice car.

Realfeel MIDI Files

BY: REALFEEL
FOLDER: MIDI
FILES: 5FOUR1.MID,
BONGOFUR.MID,

JAZZRAP2.MID, SHUFFL10.MID
TOTAL SIZE: 10K
GET STARTED WITH: SEE BELOW

Please send me Volume 1 of the Realfeel Groove library in Notator/ MIDIfile 0/ MIDIfile 1 format. (Delete as applicable)
 I enclose a cheque for £9.95 made payable to Realfeel

Name _____
 Address _____

Send your orders to: **Realfeel Groove Library,**
3/156a Stoke Newington Road,
London N16 7XA

Please tick here if you do not want to receive direct mail from other companies:

The trouble with drum machines and sequencers is the robotic sound you often get. The drum patterns somehow lack the spark of life and there's no substitute for a real musician playing. The Realfeel Groove Library puts all that straight with MIDI files of drum patterns played by a professional drummer straight into a sequencer using MIDI drum pads. All you need is a sequencer capable of loading stan-

Cover Disk Back-up

BY: BRIAN TILLEY
RESOLUTION: ALL
FOLDER: BACK-UP
FILES: BACK-UP.TOS
SIZE: 10K
GET STARTED WITH:
BACK-UP.TOS

The first thing you should do with your *ST FORMAT* Cover Disk is make a backup copy. This is because the disk will self-destruct after about a week so remember not to leave it next to anything combustible. Only kidding, but you never know when something nasty might happen to it - some split coffee or a careless accident with an industrial rivet gun can make a mess of your precious disk. The only way to buy absolute safety is to make a backup.

Because of the special format we use to cram loads of goodies onto each disk you can't do a standard Desktop copy. You could drag each folder across to drive B, but it takes loads of disk swaps. The easiest way is to use the *Back-Up* program we put on every disk.

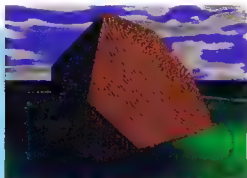
First write-protect your disk so nothing can be written to or deleted from the disk. Move the little black tab at the corner so you can see through the hole. Now get a spare disk ready and run *BACK-UP.TOS*. A menu appears, press <1> to start copying your disk. The source disk is the one you are making a copy of and the destination disk the one you are copying it to. If you have two drives then drive A is used for the source disk and drive B for the dest. nat on Swap disks when prompted. If you have 1MByte or more you only need to make one disk swap.

Back-Up doesn't just do Cover Disks, almost any unprotected disk can be copied with it and you won't find a quicker or easier program to do it with - smart.

dard MIDI files and you've got a professional drummer playing with you.

The full disk comes with 99 patterns covering a wide variety of styles including rock, soul, funk, jazz, reggae, latin and indy. As a tester we've got four examples on the Cover Disk for you to take a listen to. Never mind the width, feel the quality.

The full disk comes in at £13.95 but as a special offer to *ST FORMAT* readers we've got a coupon that'll get it to your door for £9.95, how jolly.



If this would render an unusually angular Henry Mums. There and a good few hundred others. POV knows about a library full of others. If you can't find the one you want you can define your own, so there's no excuse.

Persistence Of Vision Raytracer

BY: POV
FOLDER: POV
FILES: README.DOC,
POV_1.TOS, POV_2.TOS
UNCOMPRESSED SIZE: 576K
READ: README.DOC
GET STARTED WITH: SEE BELOW

Get ready to enter the world of truly awesome graphics. The *Persistence Of Vision Raytracer* is the most powerful raytracing package on the ST and any other machine this side of silly money. It takes a

simple script file that describes a three dimensional scene and uses some terribly complicated maths to work out all the subtleties of lighting to generate a photo-realistic picture. The final results are rendered in 16.7 million colours and can be up to 4,096 pixels square. POV uses libraries of colours, shapes, and textures that can be included in any scene.

It's not a fast process, even the simplest of images takes a while to complete the process

Pass the information on the left-

POV Raytracer is a TTP program - short for TOS Text Parser - that takes the files you want to render and produces a command line problem for you to launch POV and pass a whole host of parameters to it. It can also use batch files. These are small text files with your commonly used parameters already in them. There are two of them: *POV_1.TOS* and *POV_2.TOS*. These are called

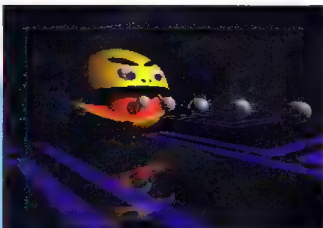
room for all the parameters you need. Along with POV you've needed *COMMAND.TOS*, a command line problem for you to launch POV and pass a whole host of parameters to it. It can also use batch files. These are small text files with your commonly used parameters already in them. There are two of them: *POV_1.TOS* and *POV_2.TOS*. These are called

and all the example scenes that are on this month's Cover Disk take hours to complete - but the results are well worth it.

In order to squash this monster of a program onto the Cover Disk, it's been archived. Get two blank double-sided disks ready and copy *POV_1.TOS* to one and *POV_2.TOS* to the other. Now run each program in turn - after a few minutes all the files unsquash themselves to your disks. One disk holds all the documentation and the utilities to display your final pictures. The other is your main

work disk with the *POV* program on it. Don't forget to delete *POV_1.TOS*, because you'll need the free disk space when you start saving your pictures.

If you want to cut through all the tedious learning business and get down and trace some pictures straight away, just run *COMMAND.TOS*. You should get a mostly blank screen and a flashing cursor. Now type in *cgtrace 320 200 pcman pcman.tga* and hit <Return>. It won't be quick, raytracing is a very complex process. After a long tea break and a chap-



This car takes a good while to render but is extra impressive for it. The car's body is a GIF picture which has been texture mapped onto the car's shape.

They are real, they are coming, the big yellow things are on their way. Quick! Put out tennis balls in spiral patterns to confuse them.

THOSE USEFUL POV RAYTRACING PARAMETERS IN FULL

There's more to setting POV going than first meets the eye. Here's a list of those essential POV parameters:

<filename> - sets the input scene to render where filename is the name of the POV file.

<offilename> - sets the name of the picture file you are creating to whatever the filename is - that is the name of the POV file.

<v> - displays statistics while rendering, useful to see how far through the process you actually are.

<k> - enables you to abort rendering by pressing a key.

<type> - sets the format of the finished picture. Type is

either *t*, *d*, *e*, *r*, for Targa, Dump or RAW.

<number> - sets the start line for rendering a picture of a scene, where number is the line number.

<s> - continues a rendering that was aborted with the *<k>* option.

<g> - waits for a keypress after rendering.

<number> - sets the end line for a partial rendering where number is the last line to be rendered.

<number> - outputs the file buffer size.

<number> - uses anti-aliasing when rendering, the number is a value between 0.0 and 1.0 - the lower the value of the number the higher the smoothing.

<number> - the image quality of the picture, the number is a value between 1 and 9 and the higher the better the final quality of the image. The default value is set at the maximum.

<path> - POV searches the path for the library files.

<important> - using a * instead of a < disables a parameter.

hand side

TOGRACE.BAT and RAW-TRACE.BAT, the first thing I noticed is the name of the program to run and then the list of parameters to pass across to it. You can edit these yourself with any text editor, remember to save them as pure ASCII text, not word processing documents. Use a batch file just type in the name at the command line. The name is followed by a number.

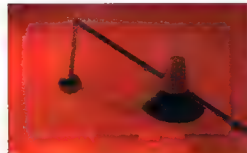
In the batch file you can pass a variable to it and then on to POV, in the two on the disk the worth, height, input file and output file are all passed across. You could add anti-aliasing to the batch file by changing `to <v>4.0`. You can now add the anti-aliasing value at the end of your list of parameters. To escape from Command, `exit` and for a list of commands press the F10 key.

ter or three of a book, a smashing 320 pixel wide, 200 pixel high and 24-bit picture of the PACMAN POV scene I have been created on your disk - easy.

You can't view this picture directly, you need to convert it to a more usable format using Photochrome which is also on the Cover Disk. There are 12 scenes inside the SCENES folder ready to be rendered, just substitute the appropriate names into your command line.

Writing your own scenes seems daunting at first but it's a

simple enough description Ian gave me to get to grips with. Check out page 22 for an introductory tutorial that can soon have you creating scenes of, well, balls at first. After some practice you can create pictures better than the Cover Disk examples. Inside the DOCS folder there are lots of documents to read including a massive manual, required reading to get behind this remarkable program. Raytracing is at the cutting edge of ST graphics and POV is the sharpest tool you can find. So, what are you waiting for? Get raytracing.



■ This is a picture that really shows off the spread of ballistics and the amazing lighting effects possible on an ST using POV and Photochrome.

Now you see it, now you don't

Inside the UTILS folder there's a clutch of utilities to display and convert your POV raytracings into pictures your ST can handle. The amazing Photochrome takes ST graphics to the limit with more colours on-screen than you'll have ever seen before. It can load both TGA and RAW files. The best quality is achieved by using Super Ham on an STFM and the stunning Photochrome pictures on an STE.

It's all mouse controlled and simple to use, click on Help Me! on

the main menu and read PCHROME3.DOC for all the details. Once you've converted your pictures you can use the PCS View program to look at them and make slideshows. View RAW is a useful effort to take a quick look at RAW pictures. Ideal for installing as an application on hard drive systems. There's also a utility to display TGA and RAW pictures on the Falcon which uses the same tricks as Photochrome to get the full 24-bit palette on screen.

Assembly Listing

BY: TONY WAGSTAFF
FOLDER: ASSEMBLER
FILES: JOY.S, MASKERS, MPFILES.3
TOTAL SIZE: 10K
GET STARTED WITH: SEE BELOW

Assembly is the most powerful programming language you'll ever need. It's not easy to get to grips with, but once you know how to program in it you can do what you want - there's no stopping you.

These three listings go with the last installment of our series on learning assembly. They do terribly clever things apparently, so turn to page 97 to get the full story

What's your problem?

1. This Disk won't load!

Before you do anything else, check your drive. If it's older than 1988, it's probably single-sided and cannot format any disk to write then 360K - this also means it can't read ST FORMAT Cover Disks. Single-sided drives are obsolete and it's well worth upgrading. Replacement drives are easy to fit and cost as little as £35.

Se your drive's spanking new, or at least it's double-sided, ST FORMAT duplicates hundreds of thousands of disks every month so, unfortunately, some are bound to be defective or damaged in some way. If the Disk just won't load, or you can't open a window at all, there's nothing in it, or the folder names are gobbledygook - the Disk is defective. It doesn't happen often, but please accept our sincere apologies. You're guaranteed a free replacement if you return the Disk to:

ST FORMAT August Disk Returns.

PO Box 21, Daventry, NN11 8BU.

Enclose a sturdy self-addressed envelope (unstamped - we'll pay for the postage) and a brief letter explaining the problem. If you're worried about trusting your precious Disk to the mails, the Royal Mail's Recorded Delivery service costs only 36p on top of the normal postage.

Please don't send your defective Disk to any other address than the above one - we have no stocks of Disks at the Bath or Somerset office.

2. I can't work out this Cover Disk program!

Your Disk seems OK: everything loads, but you've got a problem with one of the programs. Make sure you've read all the relevant Cover Disk pages and any document files on the Disk. Try consulting your ST owner's manual - that may have the information you need. Still got a problem? Then give us a ring on Wednesday afternoon. Telephone the ST FORMAT Cover Disk Hotline on 0225 442444 on Wednesday between 2 - 5 pm only.

We don't write the Cover Disk programs ourselves and don't know as much about them as the programmers, but we'll do our best to help your problem out. Please note that the above phone line is for Cover Disk problems only. If you have any other queries, read on!

3. I have a problem with this other program I bought!

The best place to start is the distributor of the program. Most software houses run some kind of helpline service - check the information that came with your software for the number.

4. I've still got an ST problem!

If you've still got a problem, you suspect your machine isn't the fault, or you need an answer to a more general query - then you have two options. (a) Ring the official Atari Helpline on 031 332 53233 on any day from Monday to Saturday 9 am - 11 pm or on Sunday from 8pm to 11pm. (b) Write to ST Answers, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Please be patient: we get absolutely loads of submissions, and we try to give them all a fair testing!

Share your creations with STF

We pay for your software - games, utilities, demos - anything good, original and short. If you've written anything worthy of appearing on STF's Cover Disk, send it with this form and full documentation to: Chris Lloyd, ST FORMAT Cover Disk Editor, 30 Monmouth Street, Bath, Avon BA1 2BW. Please be patient: we get absolutely loads of submissions, and we try to give them all a fair testing!

Name _____
Address _____
Daytime phone _____ Programme _____
Total size _____

On a separate sheet, explain concisely what the program does and why you happen to think it's so brilliant.

Remember to: ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Keep a copy of your program, because contributions are non-refundable ■ Enclose an attractive bribe. Not that it makes a difference.

Please sign the following declaration. This program is submitted for publication in ST FORMAT. It is wholly my own work and I hereby agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed _____

For the £1.00 CD-ROMs above and we'll send you one by return complete with a written quantity. **MP3** Alternatively send us £1.00 and we'll send you the same catalogue and two programs on one of our discs. Please quote 57504

MP3/MP3 CD-ROMS CATALOGUE now available 16 x A4 pages of small print on hundreds of CD-ROMs and software games. 75p including P&P to help in order of web.com

■ This gob-smacking scene was created with POV Raytrace, patience, a grasp of 3D modelling, and the skills of Mike Miller. Admit it, you're impressed, aren't you?

CREATE THE
ULTIMATE GRAPHICS
ON YOUR ST WITH
POV RAYTRACE ON
THIS MONTH'S
COVER DISK

CAN YOU SEE THE LIGHT?

Raytracing is the ultimate in graphics creation methods - it helps you make the most stunning visuals your ST can produce. Follow Chris Lloyd into a world where maths have never been so beautiful

Stunning, there's simply no other word for it. Raytracing produces images that take your breath away - the scenes come closer to reality than any other process. There are dazzling raytracing examples used for special effects in films, station logos on television as well as book and magazine covers.

Raytracing is a mathematical way of creating photo-realistic

images from a 3D model you've defined, complete with shadows, reflections and highlights. The possibilities are almost boundless.

How the hell does it all work? What we see with our eyes are different shades and strengths of light. Raytracing uses complex equations to reproduce the actions of light on a series of objects. The screen is divided up into pixels - the individual dots that form the picture. For each pixel a straight line is traced to see if it hits an

object. If it does then the path from the object to each light source in your scene is checked to see how much light there is. The light can be reflected or refracted off other objects first.

The objects in your raytraced world are made from primitive shapes including spheres, cubes and cylinders. These are rotated, squashed and mucked about with until they resemble the shape you wanted. More complex shapes are

formed from quadratic equations. The surface properties are defined

**"The realism
you can achieve
is dazzling"**

— what colour it is, how reflective it is and so on. From these properties

the program works out how light bouncing off the object behaves.

You can even do something called texture mapping. This takes a picture and wraps it around your object, say to give the skin of a dragon scales or a face rosy cheeks and blue eyes. The degree of realism you can achieve is dazzling, images have a level of detail that leave other graphics floundering. It's not completely realistic — for instance, the light doesn't fade with

distance and there is no indirect light — well, nothing's perfect is it?

All this is, of course, horribly complicated to work out and involves zillions of mathematical calculations. Luckily you don't get anywhere near this bit. All you have to do is define the objects, lights and cameras in your world and let the program loose on it. Because of the intense nature of the process it's slow — even very simple scenes take a few minutes

How you can make amazing pictures even more amazing

With the the Falcon and programs like *POV*, raytracing is having a bit of a renaissance, following the spurt of programs that appeared a few years ago (see page 24). There is now a new generation of programs in the offing. At the testing stage is *Xenomorph 2* from Lexicon Software. It has support for MultITOS

so you can render pictures in the background while you get on with something else. It also features anti-aliasing and a host of new textures. It can also render sequences created with *Chronos* — this means incredible animations are possible.

From Christmas in Germany comes *IndShape*, to be distributed

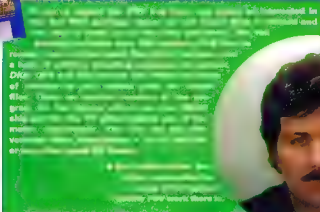
here by CGS. It's a modelling and raytracing program with a wealth of built-in textures including wrinkles, waves and 29 different types of pattern. You can set different refraction types and there's also animation. It needs a maths coprocessor and there are *RT* and Falcon versions. Price should be about £120. Also coming

seen is *Chloe* from Business Assistance in France. It promises to use the DSP chip on the Falcon to speed things up. No deal on distribution for the UK has been struck yet.

With all these programs and the Falcon, the future for the world of raytracing looks rosy — expect to see a lot more of it.

THE PROFESSIONAL TOUCH

What? Not satisfied yet?



A brilliant example of what is possible when you put a handle on defining shapes. All of this is done automatically.



See the picture with the train and fish on page 19? Undoubtedly brilliant and put together by someone who knows what he's doing. Mike Miller, who comes from a background in more traditional art, has been using *POV* for over two years.

He believes "POV is the best raytracing program; it's in a class of its own. If you can get past the script files it's outstanding — the images are crystal sharp."

Mike's work has appeared in books and magazines, including the front cover of *High Color*, a magazine aimed at the professional computer

graphics artist. "Raytracing is another artistic medium. Like any other you have to be inspired first and then you have to be methodical about achieving it. Inspiration comes from books, magazines and films, mostly fantasy and science-fiction. First sketch out the scene on paper and then draft a blueprint. You need to be meticulous about putting together the shapes and forms that create the final scene. I render the shapes in isolation without textures to save rendering time. It's tempting to try and see what things look like with metallic gold or whatever but you can waste a lot of time. Test your textures on simple objects first."

One of the first problems you're likely to meet when getting serious about *POV* is the speed of rendering. You pay for all that graphical excellence with hours of processing time. An extra ST helps,



More colours than ever before!



tricks to get the full 512 colour

squeeze the best possible graph

and more complex ones take a few hours or even days

Your ST can raytrace with the best of them, since it's all about number crunching. To show you first hand what you and your ST can achieve we have included a copy of *POV* - the *Persistence Of Vision Raytracer* - on this month's Cover Disk. Developed from a program called *DKB Raytrace*, it's the most powerful raytracing program this side of a lab. It uses a script file to describe the scene and runs using a command line program that passes parameters to the main program. If you're confused then have a quick read of the Cover Disk section starting on page 12 because it's all explained there

Raytracing opens the door on a world of incredible pictures you wouldn't have thought possible, and, armed with *POV*, you can generate professional images with the best of them. It is undoubtedly the way computer graphics are going



■ As with any medium, raytracing enables your warped imagination to find expression. Something in the attic obviously left a lasting impression on someone.



you can set it rendering and get on with other things. You'll need lots of RAM too. What really gets things moving is a maths coprocessor which are standard on TTs. On Falcons and Mega STes there is a maths coprocessor slot to enable you to plug one straight in. Some accelerator cards for the ST also have maths coprocessor slots. Simple scenes with a few

■ Inevitable, really, pool balls in all their raytraced glory. The "eight" ball is created by texture mapping a picture with the number eight in it around a sphere.

shiny balls can be left to trace overnight but when more complex scenes start taking days to render you'll soon be wishing for some extra silicon muscle

Show off and win £100!

In the spirit of expanding the boundaries of ST graphics and because we're just such darned nice people we're giving you the chance to exhibit your work to the rest of the world. Send in your raytraced pictures created with *POV* - the best one wins the author £100. So, don't just stand there, get tracing!

THOSE RULES IN FULL

1 It must be your own work, you can use the libraries included with *POV* but don't edit any existing *POV* files and definitely no tracing up someone else's file you found in an obscure corner of a PD library and passing it off as your own - we've seen them all

2 Send us the original *POV* file used to define the pic-

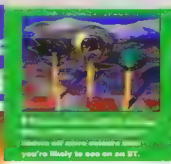
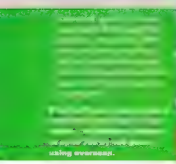
ture and the final picture in TGA or RAW format, 320 by 200 pixels. We don't have time to render all the pictures so if you just send a *POV* file it won't get looked at.

3 This compo is not open to anyone who works for Future Publishing or their families. This means you, Ed Rickerts, and your pseudonyms.

4 The Judge's decision may well be horribly unfair but it's final and that's that.

5 Send your efforts to - Ray and Trace, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 1EW

6 Closing date for entries is Friday 20 August 1993.



LIGHTS, CAMERA...

To get anywhere creating your own scenes with POV you need to understand the intricacies of the script file that tells the main program what your scene looks like. These are plain text files, you can use any text editor or word processor as long as it can save your document as plain ASCII - Protext from Cover Disk 41 or Write On from Cover Disk 33 are ideal.

There are three basic elements to any scene, the camera or viewpoint, the lights and the objects you're looking at. Let's start with something very simple.

Load up your word processor and type this little lot in. Save it as a plain text file, don't forget the file extender POV. Now run the command line program and trace it up in the same way as the example pictures as described on the Cover Disk pages.

```
camera{
  translate <0.0 0.0 0.0>
  direction <0.0 0.0 1.0>
  up <0.0 1.0 0.0>
  right <1.33333 0.0 0.0>
  look_at <0.0 0.0 3.0>
}

object{
  sphere{ <0.0 0.0 3.0> 1.0
  }
  texture{
    colour red 1.0 green
    0.2 blue 0.8
    phong 1
  }
}

object{
  sphere{ <1.3 -0.5 3.0>
    0.5 }
  texture{
    colour red 1.0
    phong 1
  }
}
```

```
object{
  sphere{ <-1.3 -0.5 3.0>
    0.5 }
  texture{
    colour blue 1.0
    phong 1
  }
}

object{
  plane{ <0.0 1.0 0.0> -1.0
  }
  texture{
    colour red 0.3 green
    1.0 blue 0.3
  }
}

object{
  light_source{
    <2.0 4.0 -3.0>
    colour red 1.0 green
    1.0 blue 1.0
  }
}
```

ratio - in this case set for 4.3. Next up are the objects - three simple spheres and a plane. POV already understands these basic shapes so you don't have to define them.

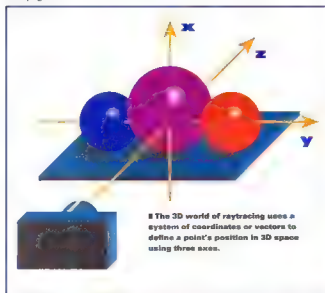
The sphere's centre locations are defined in the same way as the camera position is, the last number is the radius. The plane location defines the relative orientation of the surface, the last number is the distance away from the middle of the world - in this case one unit downwards. The texture section can contain all sorts of interesting effects, for the moment it holds the colour in terms of red, green and blue, each having a value between 0 and 1. The phong command adds a little shiny highlight to your spheres.

Last, but by no means least, is a light to view your world by. It's given a position and colour values. Setting the red, green and blue values all to 1 gives you a white light.

The finished picture isn't too stunning but shows what's possible with a few very simple commands. Now you've got a basic scene to play with you can start adding the wacky effects.

First off, how about a sky? The easiest way is to add a huge sphere enclosing the whole world. Add a new object:

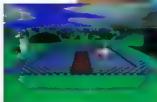
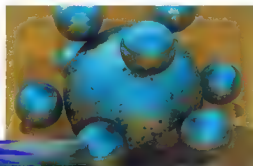
```
object{
  sphere{ <0.0 0.0 0.0>
    1000 }
  texture{
    colour blue 0.6
  }
}
```



■ An almost unbelievable creation - this is a mass of quadratic equations and looks nothing like it, it looks just like a camera.



■ Yes, it may look realistic, what we wonder is where reality it represents, humm.



■ You can see why raytracing is used to create images for films, you can just imagine Rutger Hauer lounging by this pool being weird.

■ This POV raytraces is a prize-winning number omitted *No Trace of Reality* and features, or, snakeskin twisty things and sort of orange red bunches of, or, things. No trace indeed.

■ With a few quadratic equations, complex shapes are possible - just look at these chess pieces. Once you've created a useful object you can store it in a library of objects and reuse it over and over.

POV has a wonderfully wide selection of textures and surface effects to use. We can experiment by adding a few special effect to our three spheres. Try replacing the statements between the curly brackets that define the textures of our three spheres with the following instructions:

For the big sphere

```
agate
phong 1.0
brilliance 4.0
reflection 0.15
colour map{
[0.0 0.6 colour red 0.9
green 1.0 blue 1.0
colour red 0.2 green 0.3
blue 0.7]
```

```
[0.6 1.01 colour red 0.0
green 0.3 blue 0.65
colour red 0.0 green
0.1 blue 0.2]
```

And for the two smaller ones. The first sphere:

```
checker colour red 1.0 colour
red 1.0 green 1.0
phong 1.0
```

And the second one

```
wood
turbulence 0.3
scale <0.2 0.2 0.2 >
colour map{
[0.0 0.8 colour red 0.5
green 0.2 blue 0.2
```

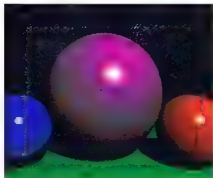
```
colour red 0.6 green 0.3
blue 0.3]
[ 0.8 1.01 colour red
0.85 green 0.4 blue 0.4
colour red 0.9 green 0.55
blue 0.55]
}
```

phong 1

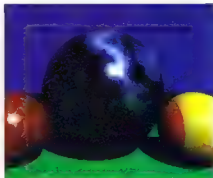
You should now get three much more interesting textures on the spheres. Try altering a few values and experimenting with the textures, you can start by getting the chequered board scaled correctly. That's just for starters; there are standard libraries of colours, shapes and textures inside the INCLUDES folder. Adding #include COLOURS.DIC would enable you to use any of the colours defined in

the COLOURS INC file. Have a read of them to see what is available. The file of textures has all sorts of wonderful surfaces for you to play with from cloudy skies to chrome. You can create your own include files with libraries of your own shapes and textures. There are some very hefty text documents along with POV which detail all the commands, these really are an indispensable read. As with all good things, it doesn't come easy - patience and experimentation is the order of the day.

POV is a powerful and flexible program. If you get to know its ins and outs you can become a serious contender around raytraced graphics and there's not much more satisfying. Quite.



■ In the beginning there were spheres, for no better reason than they are easy to define, trace quickly and show off the lighting effects nicely.



■ Add some textured and a big sphere to create a sky and things start to look more interesting. The level of control you have over the shape and appearance of your objects is unbelievable.

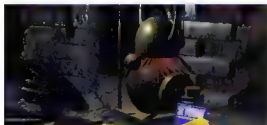


■ Hang on a moment, we seem to have left out some of the intervening stages. Looks rather good though, doesn't it?

NOT ONLY BUT ALSO

POV is not alone on the scene, there are half a dozen other raytracing programs available. They range from the simplistic *Pearle* to the power and flexibility of *Xenomorph* - check out the in-depth review in STF 47, turn to page 52 to order

your copy if you missed it. There are two basic approaches - with or without script files. Wireframe models makes the process much more visual and easier to get into but script files offer much more control and precision. You pay your money, you take your choice.



■ A simple interface married to a powerful rendering engine makes *Xenomorph* approachable yet mighty. Wireframe 3D objects make setting up the scene easier.

XENOMORPH

FROM: 16/32 SYSTEMS

PRICE: £79

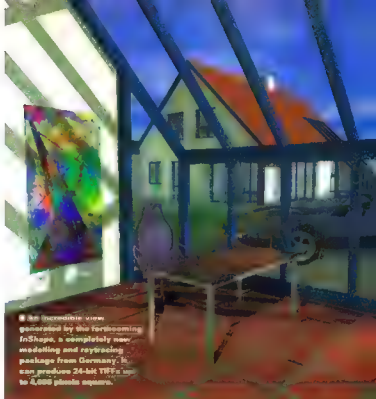
CONTACT: ☎ 0634 710788

Instead of using maths and script files to create objects, *Xenomorph* uses objects in the 3D2 format

created by 3D modelling programs like *Cyber Sculpt*. *Xenomorph* has an uncomplicated GEM interface; everything is graphically represented. There are two built-in textures - wood and marble. You can also texture map pictures onto any shaped object. Output can be anything from 16 to 16.7 million colours and in any size, it

even produces *Spectrum 512* format screens. It takes advantage of an 030 processor or maths coprocessor if you have them. It's respectably speedy, easy to use and the results are excellent. It lacks the sophisticated surface textures of *POV* but excels in every other area

STF Rating: 93%



■ An impressive view generated by the forthcoming *InShape*, a completely new modelling and raytracing package from Germany. It can produce 24-bit TIFFs up to 4,096 pixels square.

DKB

FROM: THE PUBLIC DOMAIN

CONTACT: PD DIRECTORY ON PAGE 95



■ *DKB* produces stunning 24-bit output like *POV*. Here is a scene showing off the ability to put transparent windows into our old friend, the ball.

This is the program that *POV* was developed from and is very similar in operation. Having a less powerful raytracing engine makes it faster but less flexible. There are utilities to convert the *DKB* files into *POV* files so if you've started with *DKB* you can move over without losing all your hard work. It has all the features you want in a high-end raytracer. There are loads of textures, texture mapping, fog and the like. Output is in 24-bit Targa or raw format. It's not as sophisticated as *POV*, but still in a different league than programs like *GFA Raytrace* even if you do have to wrestle with uncooperative script files.

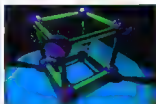
STF Rating: 88%

GFA RAYTRACE

FROM: GFA DATAMEDIA

PRICE: £20

CONTACT: ☎ 0734 794941



■ One of the first programs to show what your ST can do graphically, *GFA Raytrace* is looking a little dated now, but still looks groovy.

The first raytracing package available for the ST, *GFA Raytrace* uses a GEM editor to create and render your scenes making it easy to get going with. You design everything as wireframes first. You can create basic animations too. The final output is a 512-colour picture similar to *Spectrum 512*.

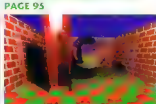
The basic set of objects is a little limited and you end up with a lot of mirrored balls on chequered floors. There are no textures and limited texture mapping. It's slow and finished pictures often have trouble coping with the number of colours leaving dots and stripes on your screen.

STF Rating: 81%

QRT

FROM: COVER DISK 33 OR THE PUBLIC DOMAIN

CONTACT: PD DIRECTORY ON PAGE 95



■ A QRT scene, the brick pattern is defined using some arse maths and the mirror ball shows off what it is capable of.

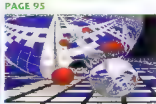
The first of the really powerful script file based raytrace programs to be converted to your ST works in the same way as *DKB* and *POV* but it's much faster and much simpler. The types of basic shapes is limited and there's no rotation. It produces 24-bit RAW output, there is a higher occurrence of stray pixels with the wrong colour - the maths algorithms aren't as complicated. The major feature missing is the ability to texture map, you have to define your own surface patterns. On the plus side it's easier to learn and you can view your results a lot quicker.

STF Rating: 79%

PEARLE

FROM: COVER DISK 33 OR THE PUBLIC DOMAIN

CONTACT: PD DIRECTORY ON PAGE 95



■ Classic raytracing with *Pearle*. You can define velocity and gravity and create realistic animations but all scenes tend to look similar.

Not really a serious contender but easy to use and relatively fast. *Pearle* uses simple script files. There's little flexibility, it's basically balls on a patterned floor, the output is fixed to 16-colour low resolution and there's no colour green - could be a tad inconvenient.

It creates a series of pictures forming short animations, each screen is saved as a *Degas Elite* picture. One thing it does have is realistic gravity, something unique to *Pearle*. It's not meant to be a serious raytracing program, just a quick and simple introduction to the process and a bit of fun.

STF Rating: 58%

Made for budding *Nigels*...



The Logic3 FreeWheel™

Can you imagine Nigel Mansell using a joystick to control his car around a high-speed track? Probably not. That's why we came up with the FreeWheel. Just plug it into your computer joystick port and experience the real sensation of driving!

- * Suitable for all types of driving and flying games
- * Uses unique angle-sensitive switches
- * Extra-long connector cable
- * Ideal companion for the QJ Footpedal Controller (SRP £24.99)
- * Does not need to be mounted or fixed to a surface
- * Following versions available now:



FW111 - Digital FreeWheel for Amiga/ST/C64 etc - £29.99 inc VAT

FW123 - Analog FreeWheel for Amiga - £39.99 inc VAT

FW223 - Analog FreeWheel for IBM PC - £39.99 inc VAT

FW311 - Digital FreeWheel for Sega Megadrive - available Autumn 93

FW411 - Digital FreeWheel for Super Nintendo - available Autumn 93

Another winning product from

SPECTRA
VIDEO

TEL 081 902 2211

AVAILABLE FROM ALL GOOD COMPUTER STOCKISTS

ALL TRADE MARKS AND BRAND NAMES ARE ACKNOWLEDGED AS THE PROPERTY OF THEIR RESPECTIVE OWNERS.

IS THE GAMES INDUSTRY COMPLETELY BONKERS?

There are over three million ST owners in Europe yet the games industry is reluctant to support them. Rob Mead asks the major players what their problem is...

Despite the fact that the games industry is selling more ST games than it has done for months, it seems to think it no longer needs you. It's in the process of turning its back on Europe's three million ST users in favour of get-rich-quick consoles and CDs. Even the Falcon could fall victim to the software houses' lack of enthusiasm for Atari hardware.

Although it's a slow process the move is seemingly unrelenting with fewer games being released each month. But are the software houses making a mistake, in leaving Atari's machines too soon? There's still a market for ST games and the Falcon and Jaguar have a potentially massive user base.

Over the last few months STF has reviewed some truly great games – *Street Fighter 2*, *Civilization* and the *Chaos Engine*. The release of these games has given the industry a boost. Usually ST sales account for around 5% of the total, but they've recently reached around 10%. Previous low figures affect retailers like W H Smiths – they're less prepared to give ST games shelf-space – this, in turn, means that software houses are faced with ever-shrinking profit margins when it comes to convert-

ing games to the ST. Typically, it takes six to eight weeks for programmers to convert a game to the ST – that's a lot of time and resources many software houses argue could be better spent elsewhere, especially if the ST version of the game sells hundreds of copies, rather than thousands. Of course, the first thing they consider is profitability – is it financially worthwhile developing games for the ST?

Gooch's World Class Cricket

received a very respectable rating of 85% in STF 47 but the ST version sold poorly, prompting Audiogenic to reconsider their attitude towards the ST. Managing Director Peter Calver says: "Our view of the ST has

changed somewhat. Sales of *World Class Cricket* have been less than 10% of the Amiga sales – we're talking hundreds of copies, rather than thousands." Not surprisingly, this attitude affects how Audiogenic views the Falcon. "If we knew we could sell 5,000 Falcon games we'd do it, but we haven't sold 5,000 ST games for a long time. This view contrasts sharply with that of Bridget Hirst of US Gold who believes that they are becoming more aware of the

"Over the last few months ST FORMAT has reviewed some truly great games"

■ It only takes Sinarc's a month to convert games like *Transarcia* for the Falcon, so why aren't other software houses doing the same?



strength of the ST market following the success of *Street Fighter 2* – see page 7

We're not being deserted!

The games industry is divided into two main camps – the major software houses like Ocean and US Gold who churn out a constant stream of games and smaller, more specialised companies – Impressions, for example – who confine themselves to a particular genre, like strategy or war games.

Over the past year major software houses like Electronic Arts – which published the *Populous* games – and Coktel Vision – responsible for *Goblins* – have deserted the ST for more lucrative markets. In fact, Coktel Vision no longer produces any floppy disk based products – it's all CDi.

It's not all bad news though, the majority of the big software houses are continuing to support the ST. Virgin have another five ST releases lined up for 1993 including *Dino Din's Goal* and *Sensible*

demand is at a high enough level to be commercially viable."

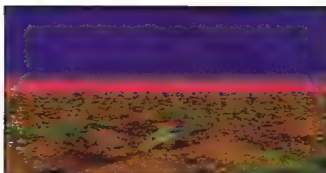
A lot of companies like US Gold also get second bite of the ST cherry with strong budget labels – their Knox XL range, for example, features *FORMAT* Gold winning games like *Future Wars*, *Midwinter* and *Operation Stealth*. Another company who're still supporting the ST is Gremlin Graphics who've finally announced plans to release the ST version of *Zool* this September after months of will-they-won't-they speculation.

It's not just the big companies who are going to keep releasing games for the ST either. Alternative Software is planning to release ten new games for the ST this year including *Suburban Commando*, a film licence featuring Hulk Hogan of WWF fame and Newcastle-based Zeppelin Games already have 25 ST titles available including old Impressions' games like *Rorke's Drift* and *Great Napoleonic Battles*.

Just across the Channel

Some of the strongest support for the ST in the UK comes from the French. There are over a million ST users in France and the ST still accounts for 25% of all software sales there. This means there are still plenty of software houses willing to produce new games, including Silmarils and Lankhor who are responsible for the *Ishar* series and the *Vroom* racing sim respectively.

Richard Hennerley, Managing Director of Daze Marketing, is responsible for importing many French games into the UK and remains enthusiastic about supporting the ST. "Even if Atari stopped selling the ST and Falcon tomorrow, there'd still be millions of users out there," an attitude, he says, which is shared by the French companies he deals with. Silmarils, for example, have just released *Ishar 2: Messengers of Doom* – see the review on page 70 and Lankhor are about to release two new graphical adventure games – *Black*



Black Scorpion's *Spender* game is still in production, but uses all of the Falcon's capabilities including the DSP chip and the true colour mode.

Sect and *Sukrye* – in the UK. See the news stories on page 10 for more details on those games. However, Richard Hennerley blames Atari's marketing and their commitment to the ST as a games machine for the ST's slow decline. "Atari made a basic philosophical mistake in that they have this idea the ST is a business machine. This is absolute rot. It's a game's machine... It's a kind of commercial snobbery." Richard

Roques of Silmarils says it only took a month to convert the PC version of *Ishar* onto the Falcon, and that future releases are going to take even less time, because the system for converting games is now well established. The Falcon version of *Ishar 2* – to be released in August – also promises to make use of the Falcon's true colour mode and the DSP enables the Falcon to process sound and graphics information, while the main processor concentrates on the running of the software itself.

Atari UK's Marketing Manager Darryl Still, however, argues that he'd like to see 20 high quality games which, as he puts it, "are going to blow people's minds" rather than 200 games which

have been merely converted from the PC versions.

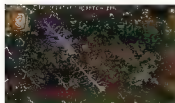
One game under development by Black Scorpion is *Spaeder*, a furious 3D shoot-'em-up which finds you hurtling over a true colour raytraced landscape while baddies launch themselves at you from all directions. However, Still doesn't see the Falcon as a games machine, but more of a "home

"Atari made a basic philosophical mistake in that they have this idea that the ST is a business machine. This is absolute rot"

Richard Hennerley

What hope for the Falcon?

It's no surprise, then – that with such strong support for the ST coming from across the Channel – that the first Falcon games to appear in the UK have come from French and German companies. Although *Ishar*, *Transarcia* and *No Second Prize* fail to make full use of the Falcon's potential, it does show other software houses how easy it could be to release games on the new format. For example, Louis-Marie



Ultima VII – another role-playing adventure game easy for the Falcon to deal with. If only it was converted.

Software's acclaimed blow-'em-up *Cannon Fodder* Flight sim specialists Microprose are committed to releasing four new ST games this year, including *Ancient Art of War in the Skies*, while US Gold have re-released *Legends of Valour*, the hugely successful role-playing game. Bridgett Hirst, of US Gold summed up the attitude towards the ST of a lot of software houses by saying, "US Gold is continuing to support the ST and is going to continue to do so as long as

GAMES WE'D LIKE TO SEE ON THE FALCON





■ Games like *Space Junk* could finally prove to a sceptical public what a stupendous machine the Falcon really is.

entertainment" package, "I see the Falcon as a jack-of-all-trades, and master of them all."

The machine of the future?

The major problem Atari faces, however, is in convincing software houses and members of the public that the Falcon is a machine of the future. So far, few software houses – especially the major concerns like Ocean and Electronic Arts – are



■ Granit Graphics confirm their support for the ST with the release of *Zool* expected in September.

prepared to commit the time and resources to developing software for the Falcon. Much of this is based on a scepticism towards Atari's ability to market the machine effectively and that large enough quantities are going to be sold to make development of new software commercially viable. According to Virgin's Caroline Stokes, Atari are going to have to sell at least 500,000 Falcons before Virgin are prepared to start programming games for it. There

even seems to be some confusion about whether the Falcon is available or not. When asked by *ST FORMAT* if US Gold were going to commit themselves to creating games for the Falcon, Product Communications Manager Bridgett Hirst responded by saying, "The Falcon is a victim of timing – launch dates have not been met and we're still awaiting a confirmed date. Once the machine has been released and there's proven demand for compatible games, US Gold will consider supporting the Falcon." So, who's to blame? Either the software houses are failing to get abreast of hardware developments, or Atari really has its work cut out trying to convince them the machine actually exists.

Another problem Atari have yet to overcome is the form the redesigned machine is eventually going to take. Software developers like the Bitmap Brothers are calling for the base model to have at least 2MBytes of RAM on board; they've already returned their Falcon to Atari – who have sent it on to Entertainment International for them to develop for it – because they're not prepared to do a 1MByte version of *Chaos Engine* for the Falcon. Simon Mount, *Chaos Engine*'s designer says: "we got the game working OK, but to do anything flash in



■ The French are major supporters of the ST in Europe and continue to release excellent games like *Ishar 2: Messengers of Doom* in the UK.

terms of the graphics or music we needed more than 1MByte of RAM to play with." *Legends of Valour* programmer, Kev Bulmer, has also experienced huge problems dealing with Atari – he's still waiting for his development machine a year after he was promised one.

Both *Silmarils* – Falcon releases *Ishar* and *Transarcia* require 2MBytes to run. Despite Atari's initial insistence that 1MByte of RAM was enough: "It's a bit of a red herring, because the DSP has its own memory and you can fit samples into the DSP without using the RAM," it looks as though Atari are finally going to bow to pressure for more RAM –

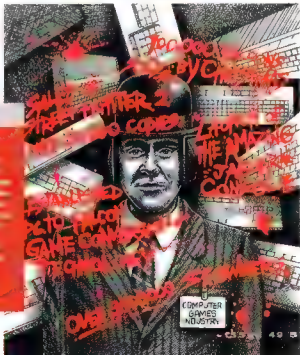
couped-up version of their *Tornado* flight sim, while *Lankhor* through a Falcon version of *Vroom 2*, the sequel to one of the best ever ST racing sims, Imagitec have almost finished *Paiden* and the long-awaited space adventure *Space Junk*.

According to Atari there are going to be over 20 games available for the Falcon by the end of the year and around half a dozen

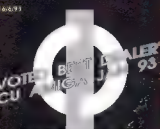
"There even seems to be some confusion about whether the Falcon is available or not"

games for the Jaguar – when that's released in the autumn. One thing is for sure, Atari are far from finished – they admit they have created problems in the past but seem convinced that they have the knowledge and

the machines to once again be at the forefront of home computing. To convince the reluctant software manufacturers to join them though, Atari definitely need to start delivering what they have been promising. **STF**



■ Is the games industry totally blinkered when it comes to looking at the potential of the ST market?



FIRST COMPUTER CENTRE

OPEN 7 DAYS A WEEK
 OPEN MON - SAT.....9.30AM-5.30PM
 SUNDAY OPENING.....11.00AM-3.00PM
 THURSDAY NIGHT LATE.....9.30AM-7.30PM
 CASHED BANK HOLIDAYS

AUTHORISED DEALERS FOR
 ACORN, CITIZEN,
 COMMODORE, DIGITA,
 FACE, PRIMA, SEGA, ROMBO,
 STAR, SUPRA,

FREE DELIVERY!

HOW TO ORDER

Order by telephone quoting your credit card number. If paying by cheque please make payable to the:

"FIRST COMPUTER CENTRE."
 In any correspondence please quote a phone number & post code. Allow 5 working days for cheque clearance.

• **Low interest credit available!**

Please phone for details

- All prices include VAT & UK mainland Delivery
- All hardware/components are genuine UK spec.
- Free Standard Delivery.
- Guaranteed 2 to 3 day (week days) Delivery...£2.50
- Guaranteed Next Day (week days) Delivery...£4.90
- Open seven days a week.
- 1100 sq. ft. showroom
- Free large car park
- Overseas orders welcome.
- Full repair service
- Educational orders welcome

SALES & TECHNICAL

24 HOUR MAIL ORDER SERVICE 6 LINES!

0532 319444

FAX: 0532 319191

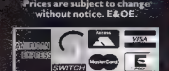
FOR DESPATCH & RETURNS

ENQUIRES TEL. 0532 337968

SHOWROOM ADDRESS:

DEPT. STF, UNIT 3,
 ARMLEY PARK COURT,
 OFF CECIL STREET,
 STANNINGLEY ROAD,
 LEEDS, LS12 2AE.

*Prices are subject to change without notice. E&OE.



THE FIRST COMPUTER CENTRE (LEEDS) TEL: 0532 319444

COMPUTERS

THE ATARI FALCON HAS LANDED!
 14 Pin (2 bit) technology for fast processing. 1.4M byte RAM, 1/3 to 14 Mb configurations. Software, £12.95

1mb 0HD
 4Mb 65 Mb HD
 upgraded Falcon model
 is available by the time this advert goes to press. Please phone for prices.

NEW! ATARI 520 STEM

2 Year Basic Inc. Custom ROM, 256K, Out Box, Screen and the Discard \$1 basic.
 only £154.99

Now only £229.99

We can also upgrade the Atari STE Discovery pack:

1 Meg version.....£239.99

2 Meg version.....£249.99

4 Meg version.....£259.99

THE 1040 FAMILY CURRICULUM PACK

NON ATARI COMPUTERS & CONSOLES

Commodore A500 cartoon classics pack inc 3 games & DPainC.....£194.99

Commodore A600.....£194.99

Commodore A800 Wild Weird A Wicked pack inc Grand Prix, Putty, Pushover & DPainC.....£194.99

Commodore A600HD Epic pack.....£194.99

Commodore A1200 80 Mb.....£579.99

Commodore A1200 127 Mb.....£649.99

ACO.....£194.99

FULL RANGE OF ARCHIVEDES 320K

Large selection of IBM compatible available

FIRST EXTRAS PACK

When you FIRST EXTRA Pack you can make sure you have everything you need when buying an Atari Computer.

• Top up quality microswitched Powerplay Control joystick

• Mouse Pad

• Drive Cover

• 10 high quality Blank Disks

• Plus 3 extra games!

only £29.99

CALAMUS DTP

Calamus 1.09n.....£129.99

Calamus S.....£299.99

Calamus SL.....£499.99

Calamus Outline Arr.....£87.99

TIMETWORKS/IST WORK PLUS SPECIAL OFFER!!

This excellent bundle comes with TimeWorks 1 and First World Plus 3.2 only £84.99

For First World Plus 3.2 only £34.99

and TimeWorks 2 only £54.99

PRINTERS FUJITSU

Canon CITIZEN OKI
HEWLETT PACKARD

All our printers come with ribbon, toner, printer drivers (if available), paper & cables!

CANON

NEW! Canon BJ105x.....£224.99

Latest quality compact. Larger buffer than the BJ105. 10 pin, 100 dpi, 100 cps, 100 lines.

NEW! Canon BJ200.....£329.99

Wide carriage version of BJ105.

NEW! Canon BJ230.....£379.99

3 pages a min speed, 360 dpi, small footprint & 80 pages sheet feeder.

Canon BJ300.....£419.99

Desktop model for high speed quality.

Canon BJ330.....£464.99

Wide carriage version of the BJ300.

BJ10 Autosheetfeeder.....£52.99

CITIZEN NEW LOW PRICES!

Citizen printers have a 2 year guarantee.

NEW! Citizen Swift 90 CL.....£175.99

Latest quality 9 pin colour. Highly recommended.

NEW! Swift 240 Colour.....£272.99

24 pin, 240 dpi, 18 lines, quiet mode, 200 cps.

NEW! Swift 200 Colour.....£224.99

Same out put as the 240 but with less facilities.

Automatic Sheet feeder.....£79.99

FUJITSU

12 month & 2 Base warranty

Fujitsu DL-11150 Colour.....£274.99

24 pin, 18 lines, 180 cps.

Fujitsu Breeze 100.....£219.99

10 pin, 100 dpi, 100 cps, 100 lines.

Fujitsu Breeze 200 inkjet.....£309.99

HEWLETT PACKARD

HP Deskjet Portable only £369.99

NEW! HP510 mono

replaces the famous HP500, faster 3ppm, 4 fonts, 300dpi

only £119.99

HP550 Colour.....now £644.99

4 times faster than the HP500C

HP580 mono cartridge.....£14.99

Double life 500 cartridges

STAR

StarLC20.....£131.99

180 dpi draft, 45 cps NLQ, quiet mode and multi page.

StarLC100 colour.....£159.99

9 pin colour, 9 fonts, 180 dpi draft, 45 cps NLQ

StarLC200 colour.....£195.99

9 pin colour, 8 fonts, 225 dpi draft, 45 cps NLQ, A4 landscape printing

NEW! StarLC24-20MKII.....£229.99

24 pin colour, 210 dpi draft, 47 cps LQ, 200 buffer expandability to 400, 18 fonts and quiet mode.

StarLC24-200 colour.....£269.99

Colour version with 38K buffer expandability to 62K

Star S448 Bubble jet.....£219.99

Low quality, low cost, 180 dpi, 180 cps, 180 lines

Star S448 Autosheetfeeder.....£49.99

Laser Printers

on-site warranty standard

Fujitsu VM600 Laser.....£679.99

6 pages per minute, HP emulation, multi font, 360 dpi

HP Laserjet 4L.....£599.99

1760 RAM, 4 ppm, small footprint

OKI 400e.....£514.99

4 pages laser, multi font, 512K memory, HP emulation

Panasonic KXP-4410.....£534.99

5 ppm laser, multi font, 128K memory, HP emulation, 300 dpi

Ricoh PCL5.....£809.99

400 Dpi, 256K RAM, 5 ppm per 2 Mb of extra RAM

add just £114.99 for 2 Mb of extra RAM

Star Laserjet LC5.....£609.99

5 pages laser, HP emulation, multi font, 300dpi

MONITORS

All our monitors are UK spec. All monitors come complete with a free Atari lead.

WARNING: Before you purchase a monitor make sure it is a full UK spec. You might be buying what you think is a similar monitor at a lower price but it is likely to be a "GREY" import & does not comply with British safety standards or covered by an official warranty.

PHILIPS CM8833 MK2

Colour monitor, 400 line resolution, great picture quality, no parts to go wrong.

Now with Lotus Turbo Response

now only £199.99

THE ATARI 1435

400 line resolution, 400 line resolution, great picture quality, no parts to go wrong.

Now only £204.99

THE ATARI Hi-Res mono

400 line resolution, 400 line resolution, great picture quality, no parts to go wrong.

Now only £119.99

NEW! PRIMA Trust Hi-Res mono 14" monitor

400 line resolution, 400 line resolution, great picture quality, no parts to go wrong.

Now only £229.99

Prima Colour SVGA monitor

400 line resolution, 400 line resolution, great picture quality, no parts to go wrong.

Now only £254.99

MICRODEAL PRODUCTS

CONCERTO.....£29.99

PLAYBACK STEREO CARTRIDGE.....£29.99

REPLAY 8.....£66.99

REPLAY 16.....£119.99

STEREO MASTER.....£29.99

QUARTET SEQUENCER.....£47.99

VIDEO MASTER SAMPLER.....£47.99

SUPRA MODEMS

The Supra-Fax Modem

9.216 bit (14400 baud)

only £259.99!

FREE COMMS software!

Send a message from Supra-Fax to any PC or even better than the standard 2400 from Supra with auto dial & auto answer.

24 pin colour, 210 dpi draft, 47 cps LQ, 200 buffer expandability to 400, 18 fonts and quiet mode.

only £139.99

Supra 2400.....only £74.99

24 pin colour, 210 dpi draft, 47 cps LQ, 200 buffer expandability to 400, 18 fonts and quiet mode.

only £39.99!

All software is included with Supra Modem.

All Supra Modems come with a 3 year warranty.

US ROBOTICS

Supra 14400 FAX Modem.....£29.99

Supra HSI 14.4K Data Modem.....£50.99

now with Lotus Turbo Response

PACE MODEMS

MicroLink V22b FAX.....£216.99

MicroLink V32b FAX.....£449.99

3 year warranty and FULLY BAST Approved

NEW! VIDI 12 ST BY ROMBO

As official dealers for Rombo, we are able to offer this excellent package at a great price. Vidi 12 ST replaces the famous Complete Colour Solution with a high specification but a lower price!

only £105.99
VIDI-ST

High quality digital, Inc Vidi chrome colouring software.

only £79.99
RGB SPLITTER

Enables you to Colour Digitastore screen. Replicates real green blue / Red screen. Can be used with all Rombo products

only £54.99

NEW!

ICD FA-ST HARD DRIVES

These drives are autobooting. They also have relatively small footprint, fast access and VERY QUIET. The DC range come with a disk cache as standard that can reduce disk accessing time by 50%. Standard warranty 1 year.

FA-ST Controller (no HD)
only £199.99

FA-ST 52DC.....19ms
only £349.99

FA-ST 130DC.....16ms
only £399.99

FA-ST 170DC.....16ms
only £419.99

FA-ST 213DC.....16ms
only £479.99

BARE SCSI DRIVES

Upgrade your present SCSI hard drive system

Quantum 52Mb.....£191.99
Quantum 127Mb.....£254.99
Maxtor 130Mb.....£219.99
Maxtor 213Mb.....£289.99
Quantum 240Mb.....£399.99
Maxtor 340Mb.....£409.99
Maxtor 540Mb.....£709.99

EMULATORS

Vortex ATonce 386SX
only £299.99

PC Speed 8MHz PC/XT
only £95.99

8MHz AT SPEED
only £149.99

16MHz AT SPEED
only £224.99

Fitting service available and full repair service on all Atari Product!!

SCANNERS THE POWER SCANNER

Only £94.99
New Alpha Scan Plus

only £119.99

MICE & TRACKERBALLS

NAKSHA MOUSE with Onboard
only £24.99

GOLDEN IMAGE MEGA MOUSE
only £12.99

DATALUX CLEAR MOUSE
only £12.99

Zydec Trackball
only £29.99

Golden Image Trackball
only £37.99

DISK DRIVES

Zydec 3.5" Drive
only £52.99

Power 720B 3.5" Drive
only £69.99

ICD ACCELERATORS
only £174.99

Ad Speed ST
only £174.99

Ad Speed ST
only £174.99

ROM SHARERS

only £44.99

only £44.99

FRONTIER RAM EXPANSIONS

only £149.99

only £149.99

only £149.99

only £149.99

only £149.99

only £149.99

ACCESSORIES The Zy-Fi Stereo System

only £36.99

THE POWER RIPPER (with Superman) Cartridge

only £29.99

RAM CHIPS

only £31.99

FORGET ME CLOCK 2

only £17.99

Atari ST Power Supplies

only £39.99

Atari Original Internal Drives £54.99!

Atari Control Centre

only £36.99

Monitor Switcher Box

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

only £17.99

SOFTWARE

NEW! LOW PRICE

System 3 Account MUSIC/SOUND

Prolog

Sequencer One Plus

Stos Master

STOS Interpreter

STOS Compiler

DIAMOND BACK 2

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

only £34.99

CREATIVE

Your ST can be used for other things besides writing the odd letter and eliminating the occasional alien. Clive Parker takes a look at three different projects where STs are used creatively and practically

Your ST is not just a games machine. Like all computers it has a potentially infinite number of uses - for instance, you can produce incredibly complicated graphics with a commercial package as well as print labels, say, using a simple utility from the Public Domain.

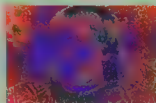
More and more people are discovering that they can use their STs for business as well as for pleasure, using their own creativity and combining it with their ST's ability to produce professional quality musical, video and publishing products. We spoke to three

different groups who use STs at work - all standard models with modest memory upgrades to 1 or 2MBytes of RAM and none of them uses a hard drive. These setups are hardly any different to the ones you have at home - our recent survey showed at least half of you have 1MByte or more of RAM.

Apart from the professional video company, the enterprises featured use equipment they have put together over a period of time. They have not gone out and bought thousands of pounds worth of gear in one mad spending spree, everything has been painstakingly

TRANSPORTS OF DELIGHT - NOT JUST

You don't need an expensive art program to set your music off to it: best advantage - or at least Tranceport didn't. The images on the CD cover for the Tranceglobal CD were all created using Degas Elite, VIDI ST and Spectrum 512. Stewart Robins explains how some of the pictures were designed - and you can see the whole thing below



"This picture was created from a digitised picture of myself, saved as a Degas file and loaded into Kozmin. There we played around with the palettes and other functions until we had a reasonably weird picture, we then saved it as a Degas file."

added one piece at a time on a limited budget, and much of the software used is PD, Shareware or

"Software developed for the ST tends to be top class and reliable"

Dermot Byrne

gleaned from *ST FORMAT* Cover Disks. It just goes to show that with the setup and facilities you may have at home, it's possible to come up with equally impressive results.

Why STs?

We spoke to Dermot Byrne, Media Co-ordinator of 33 Arts Centre, and asked him why STs were used at the Art Centre. Dermot explains, "The ST is an easy machine to use and get used to, it's an extremely

All you have to do is take three STs and a selection of raw talent...

Tranceport

Tranceport are a three piece Scottish electronic band who have just released their first CD, *Tranceglobal*, on the Surreal record label. They used their 1040 STE not only to produce the music - the CD insert was also created on their ST using various art packages and digitising software. Tranceport also use their ST to run the business side of things. They class their brand of electronic music as "somewhere between the Orb and Mike Oldfield."

Pilot Visionaries

Pilot Visionaries are a small group of professional artists and film makers producing short live action and animated films and videos, they also perform live video installations and video mapping. They mix live action, animations and video effects using new technology to produce pop videos and other short films.

Pilot Visionaries have recently produced a video for the indie band Test Dept, using a mixture of live action, digitised and animated footage. The video, called *Bang On It*, has been featured recently on MTV. They used Videomaster to treat most of the footage in the video.



"I've used the video to produce a...
- the band member's heavy facial features...
built fitted with hair."



"I've used...
- the band member's heavy facial features...
built fitted with hair."

ARTISTRY

A PRETTY CD BOX INLAY, YOU KNOW



"A scene of Alan's face was loaded into Kosmic with a golden palette. The left side was mirrored to the right, then the face was pasted 16 times to the screen. The Dinosaur was drawn in Spectrum 512 on a white background and blurred.



"The background was then filled with black and the car copied to the buffer. The face picture was loaded and the car was pasted over the top. The Rocket Bike was created in the same way except that the bike was drawn in Deges Elite.



"The basic structure of the Tranceport logo was created in Deges. The colours and textures were added in Spectrum 512. The logo was added to the other pictures using Block - and any Blake's Seven influence is totally unintentional."

stable platform and software developed for it tends to be top class and very reliable. Newcomers to the ST can simply point and click on the functions they want to use, whereas most other systems come up with obscure prompts that tend to baffle you."

"The ST is a very efficient machine to use, most of the software we use makes the ST transparent and you can get straight into what you are doing. If you are

working with Calamus you can load the software and immediately start designing and if it is Cubase or Notator you've got running then you can start making music as soon as it's loaded."

Paul Taylor of Pilot Visionaries had this to say about the ST. "Basically, we used the ST because it was available and could do the job we wanted. We have an ST VideoMaster from Microdeal and we decided that it would be perfect

for the job we wanted to do. James Kelly of Simulations Inc dealt with all of the animation and digitising while I chose the video images that we were going to use and also directed the video.

"The ST is easy to use and has powerful graphics programs available that doesn't cost the earth; comparable software on other machines like the PC, Mac or Amiga typically costs three or four times as much as ST software,

"Comparable software on other machines... typically costs three or four times as much making the ST an ideal choice"

Paul Taylor

making the ST an ideal choice." Stewart Robinson of Tranceport bought his first 520 STFM in 1988 specifically for music purposes, "I bought the ST because it had a MIDI interface so that it could be connected directly to a MIDI recording setup.

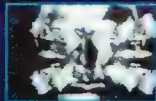
"We quickly found out that a 05MByte machine wasn't really going to give us a lot of space for storing song data so we got a 1040 STE to replace it. We realised that the big programs like Pro 24 and Cubase were too expensive so we used a cheaper sequencer called Studio 24. We discovered that the



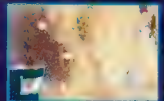
"Pilot Visionaries have used various picture techniques to rapidly flash a series of images on-screen."



"Using propane gas containers for illumination is not much improved without a Neoprene suit."



"Some of the imagery used in the high-magnification, even Jeff Blower."



"It's that gas canister again, the 'unimproved' propane container, video makes it a real bright horror."

33 Arts Centre

The 33 Arts Centre based in Luton has been in operation for 12 years, acting both as a resource for the local community and also as a training centre for people from a much wider geographical area who wish to learn more about the arts.

The most technical features of the centre are the 16-track recording studio and video studio. 33 Arts Centre produces records, CDs, scratch videos, drama videos, pep videos, corporate training films and TV adverts, all based around a trio of STs.

Almost every aspect of the arts is covered at the 33 Arts Centre,

with courses in photography, music, video, dance and theatre.

Everyone working at the centre has worked professionally in their chosen field - they are not just technicians showing you how things work, they can provide expert

guidance based on practical experience. All courses are very reasonably priced so that everyone can afford to learn more about their particular interest.

Many more elderly and young people enrol on the courses, lots of which cater for varying skill levels so that everyone gets a chance to participate. Many courses are funded by sponsors, the ESF (European Social Fund) is currently sponsoring courses for unemployed youngsters in music and video production. Apparently, it is easier to get sponsorship funding from Europe than from local authorities in the UK at the moment.



free to be
free to breathe



ST is so easy to use that we decided to use it for everything."

Musically speaking

On the music side of things 33 Arts Centre uses Cubase 3, Pro 24 or Notator for sequencing; they also have Protools and Casio FZ editing software for the synths and tone modules. The Steinberg programs are the particular favourites because they are so simple to get to grips with – you hardly need a training course to learn to use the software or hardware.

Tranceport used a couple of sequencers to produce their Tranceglobal CD, initially they used Studio 24 from Digimart but they found that it was limited in scope and had some problems. The other software they used was Steinberg's Cubase 2, although this is an older version of the program it provides all the features the band require to produce their music; they now use Cubase 2 exclusively for their sequencing. As Stewart Robinson of Tranceport said, "It's all down to the person using the software, not the software itself. You've got to persevere and make the effort, you can only get out what you put in."

Graphics

For DTP work Calamus 1.09n takes pride of place at the 33 Arts Centre. Dermot says, "Calamus 1.09n is the best mono DTP software around and very good value for money, we can use it on a single disk ST system without any problems."

"We have tried other DTP packages but we have found them to be slow and unreliable. Other artwork is designed on Degas Elite, DPaint and Easy Draw and we use Protext for word processing. There is also a lot of useful PD and Shareware software around, I have quite a collection of ST FORMAT Cover

Disks – I still use Fontasia, Trip a Tron and Kozmic to generate graphics for videos."

Tranceport also use their ST for other purposes, the graphic art for the Tranceglobal CD insert was created on the 1040 STE using Kozmic, Spectrum 512 and Degas Elite. All of the digitised artwork was created by Sinister Developments using their VIDI ST digitiser, the saved files were then manipulated by Stewart Robinson using Kozmic and Spectrum 512.

The animals in the artwork and the lettering were created free-

"It's all down to the person using the software, not the software itself - you've got to persevere and make the effort"

Stewart Robinson

hand using Degas, Spectrum 512 and a hand scanner.

Once all the graphics were designed the screens were photographed using an SLR camera. Each screen was photographed three times at various brightness and contrast levels to ensure that a decent image of each screen was produced. All the photos were then pasted up on a six foot by 18 inch card for the printers.

Stewart recommends that you get your screenshots processed by a private laboratory so that you can discuss exactly what you want with the technician, it's no good taking your film into Boots and expecting a perfect set of screenshots back.

Business and publicity

33 Arts Centre uses a Canon BJ-10 printer mainly for proofing artwork and letters, although it is occasionally used to produce final artwork. Calamus files are sent to a DTP bureau in London where brochures are produced. All of the centre's printing needs are provided for by their STs, including record labels, record and CD artwork, promotional pamphlets and guides to forthcoming events at the centre. The STs are also used occasionally for other things, mainly PD spreadsheets and databases for producing presentation graphics.

Tranceport use the business software provided with their 1040 STE pack; all their accounting, database and word processing needs are handled by ST Calc (spreadsheet), ST Date (database) and ST Word (word processing). Another of the band's favourites is First Word Plus, mainly because of its simplicity.

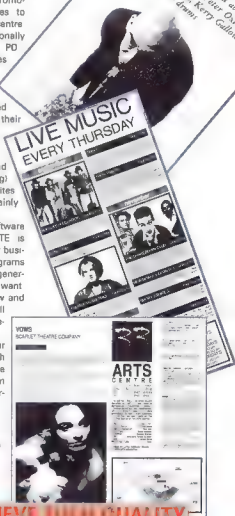
Stewart says, "The software provided with the 1040 STE is capable of handling all of our business needs, some of the programs are quite eccentric but they generally cope with everything we want. The database package is slow and difficult to update so we will probably have to find something else to replace it."

Their advertising for their discs and shows are dealt with by Surreal Records – about the only bit of their organisation that doesn't include the services of an ST! **sf**

■ Contact Surreal Records for the Tranceport CD on 0286 832586, cost £12 each ■ 33 Arts Centre on 0582 419644 for *Sinister and Vidi Visionaries* on 071 652 0608.

■ All this publicity material was produced by 33-Art using Calamus 1.09n then sent to a DTP bureau in London.

A return visit from the "1040" still bangs rather about local musicians with Peter Odell, Brian Blacker – drums



ALL THE HARDWARE YOU'LL EVER NEED TO ACHIEVE HIGH QUALITY

None of the projects that we've featured here, like the *Tranceglobal* and *Calamus* experienced any problems out and now being completed for the home.

33 ARTS CENTRE

All the software used in the studios of the 33 Arts Centre runs on single disk STs with a minimum of 1MByte of memory. They don't even have any external drives or hard drives – though a hard drive would be welcome.

Music studio

- 2MByte STE
- SMI 10 monitor
- Fastec E-16 multi-track recorder
- Auto locator and rack-mounted Sony DAT
- Yamaha TQS Tone generator
- Various other tone generators and MIDI equipment
- Roland S50 sampling keyboard

Video studio

- Laser Beam Electronic recorder, this is some where between broadcast and domestic standard
- VHS recorders

- Camcorders and professional quality cameras
- VIDI ST for digitising

Design studio

- Two 1040 STEFs
- Canon BJ-10 printer

PILOT VISIONARIES

■ This group of people create their video effects and treat the footage they've taken with professional video equipment using VideoMaster and Cyber Point to fiddle around to get a perfect result.

- 2.5MBytes STEf
- Video Master

- Sony 1750 tube camera
- Panasonic VT2 slup camera
- Low band U-matic Sony video pack

If you want to see some examples of Pilot Visionaries' work (among a selection of others), make sure you get down to Blank Vision, 32 Maddox Street, London W1 during July.

Blank Vision is a video gallery that has been set up by the video artist Jeremy Blank.

TRANCEPORT

Tranceport use the following ST setup for music:

graphics and business purposes; they have just acquired a second-hand hard drive:

- 1040 STE
- Colour monitor and mono emulator
- External disk drive
- Zydec Handy scanner
- Silkosha 9-pin printer
- VIDI ST

If you would like a copy of the Tranceglobal compact disc, contact Surreal Records on 0286 832586.

ARTISTS

■ Tranceport consist of Bobby Clilles, Alan Martin and Stewart Robinson.

• POWER TO SEE THE PROBLEM •



AND SUPPLY THE SOLUTION

ACS Electronics is an established service centre for ATARI equipment. We specialise in the repair and maintenance of computer hardware. Dedicated to a programme of quality customer care, our continual expansion enables us to offer you, our customer, a service that we believe to be second to none. Our service includes:

FAST EFFICIENT SERVICE,
most repairs are carried out within ONE DAY

QUOTATIONS RATHER THAN FIXED PRICES,
faster to you, and in practice faster to process. Each repair is quoted for separately, no fixed charges full of exclusions, or hidden extras.

REPAIRS FROM £23

FREE CARRIER SERVICE with insurance,
FREE diagnostic inspection, free 90 day warranty, FREE soak test, FREE software
No hidden charges

OPTIONAL EXTENDED WARRANTY
at competitive rates

Experienced and qualified engineering and support staff

5% DISCOUNT
available to students and OAP's

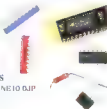
UNBEATABLE UPGRADE FITTED PRICE OF £15 INCLUSIVE

Trade and Education welcome Dealer pack available on request



COMPUTER MAINTENANCE, UPGRADES AND REPAIRS

WILSON WORKS, WILLIAM STREET, FLEETING, GATESHEAD NE10 6JP
TEL: 0191 435 0423 FAX: 0191 435 0440



EX SOFTWARE 3.5" DS/DD DISKS

50	16.99	250	74.99
100	31.99	500	144.99

Special purchase of software house surplus stock.
Disks carry our normal guarantee and come complete with new labels.

PREMIUM BULK 3.5" DS/DD DISKS

25	11.49
50	20.99
100	37.99
200	71.99
250	88.99
500	173.99



ALL DISKS ARE FULLY GUARANTEED
AND ARE COMPLETE WITH LABELS

3.5" SUPERIOR LOCKABLE DISK BOXES

Qty	100 Cap.	140 Cap.	Bank Box
1	4.49ea	6.49ea	9.95ea
2	4.39ea	6.39ea	9.75ea
4	4.19ea	6.19ea	9.50ea
6	3.99ea	5.99ea	9.25ea



**SNAP
COMPUTER
SUPPLIES LTD**

HOTLINE

0703
457111



RIBBONS - POST FREE

Full Mark Brand	2 off	4 off
	PRICE EACH	
Citizen 120D/124D Swift 24	2.75	2.55
Citizen Swift 24 Colour	13.95*	
Panasonic KXP 1080/1123/1124	3.25	3.05
Star LC10/LC20	2.60	2.40
Star LC10-A Colour	5.90	5.70
Star LC24-10/24-200	2.95	2.75
Star LC24-10 Colour	10.95*	
Star LC200	3.00	2.80
Star LC200 Colour	10.95*	
Star LC24-200 Colour	10.95*	
Ribbon re-ink	12.95	

COMPATIBLE INK JET REFILL

HP DeskJet 500 Double Refill	9.95
Canon BJ10E Double Refill	9.95

Minimum order - 2 ribbons, except those marked with an asterisk *

ACCESSORIES - POST FREE

Mouse Mat	2.99
Mouse Holder	2.99
Roll 1000 3.5 Disk Labels	8.99
Atari ST dust cover	3.50
Phillips monitor cover	3.99
Star/Citizen/Panasonic 80 colour Printer cover	3.99

All products are subject to availability - All prices include VAT.
Please add £3.50 p+p for disks and boxes. E&OE.



SNAP COMPUTER SUPPLIES LTD Fax: 0703 457222
Unit 16, The Sidings, Hound Rd, Netley Abbey, Southampton SO3 5QA



Hardware limitations

To use MultiTOS on the Falcon you need the 4MByte of RAM/ 65MByte hard drive version of the machine since MultiTOS needs a minimum of 2MBytes of RAM. If you want to use MultiTOS on a standard ST, STE or Mega ST then there are a few hardware limitations that you must take into

account. First you need a hard drive. MultiTOS takes up 2MBytes of disk space and cannot be run from a floppy disk. It's advisable to have a 4MByte machine. MultiTOS runs with 2MBytes of memory but with that setup you are going to struggle to run more than one

application effectively. Finally, STs are slow. Normal STs run at a clock speed of 8MHz, MultiTOS is designed to run on Falcons at a clock speed of 16MHz or on TTs at a clock speed of 32MHz. Installing a hardware accelerator or running a software accelerator such as NVDI improves the performance

of MultiTOS, but it's still not very fast even when it's on the Falcon. If you want to upgrade your ST to MultiTOS then contact Marpet Developments for STEM and STE 4MByte memory upgrades. The First Computer Centre have ST hard drives starting at £349.99 for 32MBytes.

without having to swap. You see, the possibilities are endless.

MultiTOS runs all correctly written TOS programs, that is, all programs that have been written to

conform with Atari's programming guidelines as laid out in the Developer Documentation for the ST range of machines. If software has been written using illegal routines or address calls then it is likely to crash under MultiTOS.

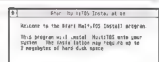
Memory protection

MultiTOS is written to take advantage of a feature of the Motorola 68030 processor called Memory Protection. This feature is ideal for

■ If you really want to dispense with memory protection on your Falcon then turn it off in the MultiTOS.CPX.

multi-tasking operating systems and enables several programs to run concurrently without interfering with each other, so if one program crashes the rest of the system continues to operate with out any problems.

Machines with the older Motorola processors (68000 68010 and 68020) do not have integral built-in memory protection - this means that if one program crashes then all the other ones running also crash. This is why using MultiTOS on an STEM or an STE is a bit of a gamble, it's bad enough losing one lot of data when a program



■ The installation looks exactly the same on a Falcon, albeit a bit more colourful. As you can see, at least 2MBytes of hard drive space is required for the MultiTOS files.

crashes, losing two lots of data or more is an even bigger disaster.

Installing MultiTOS

If you are thinking of buying a Falcon with a hard drive, then MultiTOS should already be installed on the new machine. If, however, you have bought one of the earlier Falcons to come into the UK then you will have noticed a strange lack of MultiTOS on your machine. This is because the hardware was finished before all the software was ready, and rather than delay the launch of the Falcon any longer, Atari decided to supply the multi-tasking



General MultiTOS related problems on the ST

The following problems occur on all STs which are running MultiTOS.

■ The mouse pointer sticks in Busy idle mode or disappears altogether when you close off applications.

■ Some software "sticks" as the open application. Although you can access the Desktop menu to select another program or the Desktop, control is not passed to the selected software.
■ Occasionally, the windows from one program are not

overwritten by the program that is taking control - so you end up not actually seeing the top application's windows.

■ Most non-GEM programs tend to crash or cause unexpected errors, causing everything running to fall over.

The multi-tasking tests

We tested MultiTOS on four different machines with these setups;

- Falcon030, 14MBytes RAM, 8MHz.
- Mega STE, 4MBytes RAM, 16MHz, running in medium resolution.
- STE, 4MBytes RAM, 8MHz, STS 2.06 running in mono with NVDI installed.
- STE, 4MBytes RAM, 8MHz, STS 2.06 running in mono with NVDI disabled. And this is how they reacted to...

Protext 4.3

Probably the most popular word processor around, Protext crashes instantly while running under MultiTOS on the Mega STE in colour and on the STE in mono. Protext locks up the Falcon as soon as it loads whether MultiTOS is running or not. So, this means that Protext is definitely not a MultiTOS compatible program - this was to be expected because the program bypasses GEM and creates its own interface.

STeno

STeno is a new text editor and is one of the first programs available that has been written using the Falcon030 Developer's Documentation from Atari - following the guidelines laid down for keyboard shortcuts and uses the Atari Clipboard.

As expected STeno works perfectly on all the machines running MultiTOS, although screen updates are slower than running the program from STOS. STeno is noticeably slow on the STE when NVDI is disabled, with text scrolling slowing right down to a crawl.

ONLINE KEY

FORMAT's old

favourites.

Protext. Well

unfortunately,

they prefer

word processor

doesn't like

MultiTOS one

little bit, and it

refuses to

recognise.

That's just

another non-

GEM program

that doesn't

work with

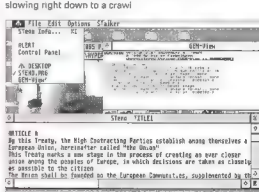
MultiTOS.

Channels and create great music. Samples are readily available from many PS libraries.

Headline / Plug-in

I have an ATARI 5285TFM and a musical keyboard which I have just bought recently. My wish is to connect the keyboard with my ST. The keyboard has both MIDI input and output sockets. The problem that I do not know how to connect them and what software to use. I could very kindly send me a clear wiring diagram or how to connect my system including what leads to buy. I also want you to send me any program names which I can use, possibly to be found in public domain libraries. If possible don't choose very expensive programs, exceeding £150, for I am only a student and surely can't afford these sums. Stefan Saliba, Malta

Wait! There really is no need for a diagram here, Stefan. Simply purchase two standard MIDI cables from your local music store, then connect each cable to the MIDI socket on the first cable and the MIDI socket on the other end of the cable.



■ Gemview and STeno running on a 4MByte STE - STeno becomes almost unusable while Gemview is loading a picture.

WILL IT OR WON'T IT?

We tested a selection of popular programs to see which work with MultiTOS...

D2D Edit (Falcon only)	Personal Finance Manager Plus
DA's Vector	Prism Paint
Diamond Back 2	ST ZIP 2.1 and 2.2
Diamond Edge	STeno
Fcopy Professional	TruePoint
Gemview 2.2	That's Write 2
Imagecopy Colour 2	4T/FX (Falcon only)

... and those which don't work either on the ST or on the Falcon

Cyber Sculpt	GFA Basic 3.5	LDW Power	Superbase	Tempus 2
Degas Elite	GFA Draft	Prodatta	Costs	UVK 5.7
Family Roots	Home Accounts 2	Protect 4.3	Superbase	3D Calc
Fontkit Plus 3	HPChrome	Protect 5.5	Personal 2	
GFA Assembler	Knife ST	STOS	Supercard 2	

software at a later date. The Atari Falcon030 MultiTOS Distribution Disk supplied by Atari is simply that, a double-sided disk containing all the MultiTOS files.

To install MultiTOS you simply place the disk in the drive and run the installation program and follow the on-screen prompts. There's no manual for MultiTOS, there's just six A4 sheets of paper

providing the basic information to install, configure and use MultiTOS. This is called the MultiTOS Preliminary User's Guide, and it actually tells you everything you need to know about the operating system so that you can use it to the best effect. Unless you want to get into programming software for MultiTOS you don't actually need more in-depth information. **stf**

Programming for MultiTOS

If you want to develop your own software for the Falcon030 and MultiTOS, you need to get hold of the Atari Falcon030 Developer's Documentation. This consists of 120 pages that provide all the information you need to write MultiTOS aware

software, take advantage of the DSP 56001 processor and use the Falcon030 specific hardware.

The developer documentation costs £49.95 from Atari and is supplied complete with a DSP Assembler program, DSP Debugger and Linker software.

Gemview 2

Gemview 2 is an excellent Shareware graphics program that enables you to display 256 colour and true colour images on the Falcon, or on any ST with a colour graphics card. Because Gemview has been written to work with colour graphics cards, it follows the Atari programming guidelines very closely, which makes it fully compatible with the Falcon.

Gemview is also MultiTOS compatible. On the Falcon, the top application slows down and becomes almost unusable when Gemview is loading a JPEG image in the background – these are compressed and use a lot of processor time.

The Mega STE is fine when using Gemview although the top applications also run slowly. The STE is virtually disabled while Gemview loads data, both with and without NVDI. Top applications just sit there while the processor decompresses the JPEG pictures.

Diamond Edge 1.4

Diamond Edge is a hard drive maintenance utility that ensures that your data is kept in tip-top condition. Using the program under MultiTOS is no problem, although the main window has no size device to make it larger or smaller – but you can move the window to one side to get at Desktop icons or other windows underneath.

Even though Diamond Edge runs on all machines using MultiTOS, some windows are not cleared when switching to other programs – some of the Edge icons are visible in the Steno window when switching from the Desk menu. Because Diamond Edge is constantly accessing the hard drive it is not really recommended to perform any maintenance functions at the same time as another program is running, this can cause problems with data loss or corruption. Not recommended for multi-tasking purposes.



■ Diamond Edge is fine, but don't use it while running another hard drive accessing program.

Fastcopy Professional

Fastcopy Pro is probably the best formatting and disk back-up program available for the Atari range of machines, capable of high density and PC compatible formats. Although the program loads and runs correctly on most machines using MultiTOS, the Desk menu or the Desktop can't be accessed, and you can't switch between applications at all. Luckily, Fastcopy Pro can also be used as a Desk Accessory, so it is always available from within other programs.



■ Fastcopy Pro works under MultiTOS, but it doesn't let you get at the menus or switch to other programs. So, it's not much good really.



■ Gemview and Steno running on a 16MByte Falcon030 - Steno slows down when Gemview is loading a picture but is still just about usable.



Games

[illegible]

Dalek Attack 13.9%

hundreds more
in stock!

MEMBER	THIRD PLACE	1st
1. M. LEE	2. J. BROWN	2.00
3. J. BROWN	4. J. BROWN	1.50
5. J. BROWN	6. J. BROWN	1.50
7. J. BROWN	8. J. BROWN	1.50
9. J. BROWN	10. J. BROWN	1.50
11. J. BROWN	12. J. BROWN	1.50
13. J. BROWN	14. J. BROWN	1.50
15. J. BROWN	16. J. BROWN	1.50
17. J. BROWN	18. J. BROWN	1.50
19. J. BROWN	20. J. BROWN	1.50
21. J. BROWN	22. J. BROWN	1.50
23. J. BROWN	24. J. BROWN	1.50
25. J. BROWN	26. J. BROWN	1.50
27. J. BROWN	28. J. BROWN	1.50
29. J. BROWN	30. J. BROWN	1.50
31. J. BROWN	32. J. BROWN	1.50
33. J. BROWN	34. J. BROWN	1.50
35. J. BROWN	36. J. BROWN	1.50
37. J. BROWN	38. J. BROWN	1.50
39. J. BROWN	40. J. BROWN	1.50
41. J. BROWN	42. J. BROWN	1.50
43. J. BROWN	44. J. BROWN	1.50
45. J. BROWN	46. J. BROWN	1.50
47. J. BROWN	48. J. BROWN	1.50
49. J. BROWN	50. J. BROWN	1.50
51. J. BROWN	52. J. BROWN	1.50
53. J. BROWN	54. J. BROWN	1.50
55. J. BROWN	56. J. BROWN	1.50
57. J. BROWN	58. J. BROWN	1.50
59. J. BROWN	60. J. BROWN	1.50
61. J. BROWN	62. J. BROWN	1.50
63. J. BROWN	64. J. BROWN	1.50
65. J. BROWN	66. J. BROWN	1.50
67. J. BROWN	68. J. BROWN	1.50
69. J. BROWN	70. J. BROWN	1.50
71. J. BROWN	72. J. BROWN	1.50
73. J. BROWN	74. J. BROWN	1.50
75. J. BROWN	76. J. BROWN	1.50
77. J. BROWN	78. J. BROWN	1.50
79. J. BROWN	80. J. BROWN	1.50
81. J. BROWN	82. J. BROWN	1.50
83. J. BROWN	84. J. BROWN	1.50
85. J. BROWN	86. J. BROWN	1.50
87. J. BROWN	88. J. BROWN	1.50
89. J. BROWN	90. J. BROWN	1.50
91. J. BROWN	92. J. BROWN	1.50
93. J. BROWN	94. J. BROWN	1.50
95. J. BROWN	96. J. BROWN	1.50
97. J. BROWN	98. J. BROWN	1.50
99. J. BROWN	100. J. BROWN	1.50

DataGEM

Mon - Fri 10am to 8pm
Saturday 10am to 4pm
2 mins from Old St. Tube - take exit

**Try before you buy
at mailorder prices**

Games
Centre

[illegible][illegible]

3.5" Disks

Qty	DSDD	DSHD
10	9.28	7.06
20	13.35	11.33
30	18.85	16.25
40	14.75	21.85
50	15.50	26.50
60	15.85	28.90
45	21.10	32.10
80	22.86	34.42
100	26.33	37.50
120	41.73	51.90
150	49.40	72.40
200	80.95	80.25
300	78.73	115.75
250	91.30	134.25
200	116.30	150.75
400	184.50	224.25
500	184.45	268.25
500	228.45	343.25
1000	264.20	324.42
2000	723.50	1618.75
3000	1086.75	1499.15
4000	1461.45	1861.25
5000	1729.60	2129.25

Educational

All our disks are fully

external Disk Drive
Head Cleaner (3.5")

External Disk Drive	579
Head Cleaner (3 1/2")	37
Mouse	14
Mouse House	29
Mouse Mat	29
Parallel port extension cable	69
Parallel printer cable, 3m	69
Robotron auto Mouse joystick setup	147

Dust Covers

Item	Price
After	3.00
Monitor	6.00
STAR UC D penist	7.00
STABLA CDA printer	6.00

Disk Boxes

Disk Boxes	
10	Shogun
40	
50	
80	
100	
120	
50	
100	

Joysticks

[illegible]

Printer Ribbons

Printer Ribbons	
ST-910 1/2 20 00 Black JCB	4.50
ST-910 1/2 20 00 Black JCBGL	6.80
ST-910 1/2 20 00 Black JCB	6.20
ST-910 1/2 20 00 Black JCBGL	7.20
ST-910 1/2 20 00 Black JCB	6.50
ST-910 1/2 20 00 Black JCBGL	7.50

DataGEM
has supplied computer
hardware and software to tens
of thousands of satisfied
customers since 1987.
Amiga Atari PC Sega
Trust us to have all you need

7 days a week. No credit card surcharges

All O

Cheques/postal orders to

DataGEM Ltd
Department STF
23 Pitfield Street
London N1 6HB

Credit card orders 10 am to 10 pm

071 608 0624


7 days a week (not an answerphone)

You can also FAX your order to 021 608 0688

Prices include UK postage and VAT and are effective until 28 August 1993. On overseas orders, postage is charged at cost. New titles will be sent as released and are subject to manufacturers' price reviews. All orders taken subject to our standard terms and conditions. E 40 E



BEWARE OF SHARKS



Want some new kit for your ST? Then you have to dive into what can be the shark-infested waters of the mail order industry. Paula Richards tries to keep her toes from being bitten off...

520ST PLUG-IN 1MB SOLDERLESS RAM UPGRADE

Atari 520ST computers can be upgraded to 1MB RAM using this plug-in module. It is a simple and reliable upgrade. It is a simple and reliable upgrade. It is a simple and reliable upgrade.



**Only
£49.95**

NEW PHILIPS TV/MONITOR

With its 20cm screen, the Philips TV/Monitor offers the advantages of a high quality 15" medium resolution colour monitor with the convenience of remote control. Features a built-in stereo video input. Features a built-in stereo video input. Features a built-in stereo video input.



£249.00 Including VAT, delivery & cable

Monitor Switch Box - Switch between colour & mono. Features a built-in stereo video input. Features a built-in stereo video input. Features a built-in stereo video input.

Philips CM833 Mk II Monitor (Colour) - 15" screen. Includes cable. 1 Year on-site maintenance and Lotus Excel Turbo 2 game. **£229.00**

SPECIAL OFFER !!!

FIRST WORLD PLUS + TIMEXWORKS 91P 2

Available with any hardware purchase over £75.00

TRUEMOUSE

WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for your Atari ST. Excellent performance, with a 300dpi resolution. Amazing low price!

£14.99 SATISFACTION GUARANTEED

GOLDEN IMAGE OPTICAL MOUSE

NEW LOWER PRICE! **£29.00**

520 ST2 Discovery Extra Pack	£249.95
With 1Mb RAM Upgrade	£209.95
1000 STX Family Computer Pack	£389.95
With 2Mb RAM Upgrade	£449.95
Dust Covers - available for any ST	£4.95
520 ST2 1Mb upgrade	£2.95
520 ST2 2Mb upgrade	£2.95
520 ST2 4Mb upgrade	£2.95
520 ST2 8Mb upgrade	£2.95
520 ST2 16Mb upgrade	£2.95
520 ST2 32Mb upgrade	£2.95
520 ST2 64Mb upgrade	£2.95
520 ST2 128Mb upgrade	£2.95
520 ST2 256Mb upgrade	£2.95
520 ST2 512Mb upgrade	£2.95
520 ST2 1024Mb upgrade	£2.95
520 ST2 2048Mb upgrade	£2.95
520 ST2 4096Mb upgrade	£2.95
520 ST2 8192Mb upgrade	£2.95
520 ST2 16384Mb upgrade	£2.95
520 ST2 32768Mb upgrade	£2.95
520 ST2 65536Mb upgrade	£2.95
520 ST2 131072Mb upgrade	£2.95
520 ST2 262144Mb upgrade	£2.95
520 ST2 524288Mb upgrade	£2.95
520 ST2 1048576Mb upgrade	£2.95
520 ST2 2097152Mb upgrade	£2.95
520 ST2 4194304Mb upgrade	£2.95
520 ST2 8388608Mb upgrade	£2.95
520 ST2 16777216Mb upgrade	£2.95
520 ST2 33554432Mb upgrade	£2.95
520 ST2 67108864Mb upgrade	£2.95
520 ST2 134217728Mb upgrade	£2.95
520 ST2 268435456Mb upgrade	£2.95
520 ST2 536870912Mb upgrade	£2.95
520 ST2 1073741824Mb upgrade	£2.95
520 ST2 2147483648Mb upgrade	£2.95
520 ST2 4294967296Mb upgrade	£2.95
520 ST2 8589934592Mb upgrade	£2.95
520 ST2 17179869184Mb upgrade	£2.95
520 ST2 34359738368Mb upgrade	£2.95
520 ST2 68719476736Mb upgrade	£2.95
520 ST2 137438953472Mb upgrade	£2.95
520 ST2 274877906944Mb upgrade	£2.95
520 ST2 549755813888Mb upgrade	£2.95
520 ST2 1099511627776Mb upgrade	£2.95
520 ST2 2199023255552Mb upgrade	£2.95
520 ST2 4398046511104Mb upgrade	£2.95
520 ST2 8796093022208Mb upgrade	£2.95
520 ST2 17592186044416Mb upgrade	£2.95
520 ST2 35184372088832Mb upgrade	£2.95
520 ST2 70368744177664Mb upgrade	£2.95
520 ST2 140737488355328Mb upgrade	£2.95
520 ST2 281474976710656Mb upgrade	£2.95
520 ST2 562949953421312Mb upgrade	£2.95
520 ST2 1125899906842624Mb upgrade	£2.95
520 ST2 2251799813685248Mb upgrade	£2.95
520 ST2 4503599627370496Mb upgrade	£2.95
520 ST2 9007199254740992Mb upgrade	£2.95
520 ST2 18014398509481984Mb upgrade	£2.95
520 ST2 36028797018963968Mb upgrade	£2.95
520 ST2 72057594037927936Mb upgrade	£2.95
520 ST2 144115188075855872Mb upgrade	£2.95
520 ST2 288230376151711744Mb upgrade	£2.95
520 ST2 576460752303423488Mb upgrade	£2.95
520 ST2 1152921504606846976Mb upgrade	£2.95
520 ST2 2305843009213693952Mb upgrade	£2.95
520 ST2 4611686018427387904Mb upgrade	£2.95
520 ST2 9223372036854775808Mb upgrade	£2.95
520 ST2 18446744073709551616Mb upgrade	£2.95
520 ST2 36893488147419103232Mb upgrade	£2.95
520 ST2 73786976294838206464Mb upgrade	£2.95
520 ST2 147573952589676412928Mb upgrade	£2.95
520 ST2 295147905179352825856Mb upgrade	£2.95
520 ST2 5902958103587056517132Mb upgrade	£2.95
520 ST2 11805916207174113034264Mb upgrade	£2.95
520 ST2 23611832414348226068528Mb upgrade	£2.95
520 ST2 47223664828696452137056Mb upgrade	£2.95
520 ST2 94447329657392904274112Mb upgrade	£2.95
520 ST2 188894659314785808548224Mb upgrade	£2.95
520 ST2 377789318629571617096448Mb upgrade	£2.95
520 ST2 755578637259143234192896Mb upgrade	£2.95
520 ST2 1511157274518286468385792Mb upgrade	£2.95
520 ST2 3022314549036572936771584Mb upgrade	£2.95
520 ST2 6044629098073145873543168Mb upgrade	£2.95
520 ST2 12089258196146291747086336Mb upgrade	£2.95
520 ST2 24178516392292583494172672Mb upgrade	£2.95
520 ST2 48357032784585166988345344Mb upgrade	£2.95
520 ST2 96714065569170333976690688Mb upgrade	£2.95
520 ST2 193428131138340667953381376Mb upgrade	£2.95
520 ST2 386856262276681335906762752Mb upgrade	£2.95
520 ST2 773712524553362671813525504Mb upgrade	£2.95
520 ST2 1547425049106725343627051008Mb upgrade	£2.95
520 ST2 3094850098213450687254102016Mb upgrade	£2.95
520 ST2 6189700196426901374450204032Mb upgrade	£2.95
520 ST2 12379400392853802748904088064Mb upgrade	£2.95
520 ST2 24758800785707605497808176128Mb upgrade	£2.95
520 ST2 49517601571415210995616352256Mb upgrade	£2.95
520 ST2 99035203142830421991232704512Mb upgrade	£2.95
520 ST2 198070406285660839824655409024Mb upgrade	£2.95
520 ST2 396140812571321679649310818048Mb upgrade	£2.95
520 ST2 792281625142643359298621636096Mb upgrade	£2.95
520 ST2 1584563250285286718597243272192Mb upgrade	£2.95
520 ST2 3169126500570573437194486544384Mb upgrade	£2.95
520 ST2 6338253001141146874388973088768Mb upgrade	£2.95
520 ST2 126765060022822937487794470621888512Mb upgrade	£2.95
520 ST2 25353012004564587497555892355072Mb upgrade	£2.95
520 ST2 50706024009129174995111784710144Mb upgrade	£2.95
520 ST2 10141204801825834990223576420288Mb upgrade	£2.95
520 ST2 20282409603651669980447552840576Mb upgrade	£2.95
520 ST2 40564819207303339960895105681152Mb upgrade	£2.95
520 ST2 81129638414606679921780211362304Mb upgrade	£2.95
520 ST2 162259276829213358435604222724608Mb upgrade	£2.95
520 ST2 324518553658426716871212445449216Mb upgrade	£2.95
520 ST2 649037107316853433742424890898432Mb upgrade	£2.95
520 ST2 1298074214633706867484849781796672Mb upgrade	£2.95
520 ST2 2596148429267413734969699563593344Mb upgrade	£2.95
520 ST2 5192296858534827469939399127186688Mb upgrade	£2.95
520 ST2 1038459371706965493987879825433376Mb upgrade	£2.95
520 ST2 2076918743413930987975759650866752Mb upgrade	£2.95
520 ST2 4153837486827861975951519301733504Mb upgrade	£2.95
520 ST2 8307674973655723951903038603467008Mb upgrade	£2.95
520 ST2 16615349947311447903806077206934016Mb upgrade	£2.95
520 ST2 33230699894622895807612154413868032Mb upgrade	£2.95
520 ST2 66461399789245791615224308827736064Mb upgrade	£2.95
520 ST2 132922799578491583224448617655472128Mb upgrade	£2.95
520 ST2 265845599156983166448897235310944256Mb upgrade	£2.95
520 ST2 531691198313966332897794470621888512Mb upgrade	£2.95
520 ST2 106338239662793266595558894123776256Mb upgrade	£2.95
520 ST2 212676479325586533191117788247552512Mb upgrade	£2.95
520 ST2 4253529586511730663822355764951050224Mb upgrade	£2.95
520 ST2 8507059173023461327644711529902100448Mb upgrade	£2.95
520 ST2 1701411834604692265528892305980400896Mb upgrade	£2.95
520 ST2 3402823669209384531057784611960801792Mb upgrade	£2.95
520 ST2 6805647338418769062115555223921603584Mb upgrade	£2.95
520 ST2 136112946768375381223111107450948444448Mb upgrade	£2.95
520 ST2 272225893536750762449315542483861744664Mb upgrade	£2.95
520 ST2 54445178707350152489244441791372828672Mb upgrade	£2.95
520 ST2 108890357414700304978488883782753657344Mb upgrade	£2.95
520 ST2 21778071482940060995697776756551107488Mb upgrade	£2.95
520 ST2 43556142965880121991395553513102214976Mb upgrade	£2.95
520 ST2 87112285931760243982791107026204429952Mb upgrade	£2.95
520 ST2 174224571823524479655822214052408859904Mb upgrade	£2.95
520 ST2 348449143647048959311644428104817719808Mb upgrade	£2.95
520 ST2 696898287294097918623288856209635439616Mb upgrade	£2.95
520 ST2 1393796574588195837246577712419308879232Mb upgrade	£2.95
520 ST2 278759314917639167449315542483861744664Mb upgrade	£2.95
520 ST2 55751862983527833489863108976772369328Mb upgrade	£2.95
520 ST2 111503725967055666979726217953544738864Mb upgrade	£2.95
520 ST2 223007451934111333959444435907089477728Mb upgrade	£2.95
520 ST2 446014903668222667918888871814178955456Mb upgrade	£2.95
520 ST2 892029807336445335837777743627377111112Mb upgrade	£2.95
520 ST2 178405961467291067167555548725474222224Mb upgrade	£2.95
520 ST2 356811922934582134335111107450948444448Mb upgrade	£2.95
520 ST2 713623845869164268670222214901896888896Mb upgrade	£2.95
520 ST2 142724771173832853734044442980377777792Mb upgrade	£2.95
520 ST2 285449542347665707468088885960755555584Mb upgrade	£2.95
520 ST2 570899084695331414936177771921511111168Mb upgrade	£2.95
520 ST2 114179816939066282987235553843022222336Mb upgrade	£2.95
520 ST2 22835963387813256597447110686044444672Mb upgrade	£2.95
520 ST2 456719267756265131948942213720888881344Mb upgrade	£2.95
520 ST2 91343853551253026389784442744177777768Mb upgrade	£2.95
520 ST2 182687707102506046779568885488355555536Mb upgrade	£2.95
520 ST2 36537541420501209355913777097671111172Mb upgrade	£2.95
520 ST2 730750828410024187119827541953422222344Mb upgrade	£2.95
520 ST2 146150165682004835423755089906684444688Mb upgrade	£2.95
520 ST2 2923003313640096708475101798133688881376Mb upgrade	£2.95
520 ST2 5846006627280193416950203596267377777744Mb upgrade	£2.95
520 ST2 1169201325456038683390040719253475555568Mb upgrade	£2.95
520 ST2 2338402650912077366780080438506951111136Mb upgrade	£2.95
520 ST2 4676805301824154733560160877013902222272Mb upgrade	£2.95
520 ST2 9353610603648309467120321754027804444444Mb upgrade	£2.95
520 ST2 1870722120729661933424064350805568888888Mb upgrade	£2.95
520 ST2 3741444241459323866848128701611137777776Mb upgrade	£2.95
520 ST2 7482888482918647733696256403222275555552Mb upgrade	£2.95
520 ST2 1496577695783729546739251206444444444444Mb upgrade	£2.95
520 ST2 2993155391567459093478502412888888888888Mb upgrade	£2.95
520 ST2 5986310783134918186957004825777777777776Mb upgrade	£2.95
520 ST2 11972621566267836379114009651555555555552Mb upgrade	£2.95
520 ST2 2394524313253567275822801930311111111112Mb upgrade	£2.95
520 ST2 4789048626507134551645603860622222222224Mb upgrade	£2.95
520 ST2 9578097253014269103291207721244444444444Mb upgrade	£2.95
520 ST2 1915619506002858206558241442448888888888Mb upgrade	£2.95
520 ST2 3831239012005716413116482884897777777776Mb upgrade	£2.95
520 ST2 7662478024011432826232965779795555555552Mb upgrade	£2.95
520 ST2 15324956048022655652465931559591111111112Mb upgrade	£2.95
520 ST2 3064991209604531130493186231918222222224Mb upgrade	£2.95
520 ST2 6129982419209062260986732439374444444444Mb upgrade	£2.95
520 ST2 1225996423818124521977346479774888888888Mb upgrade	£2.95
520 ST2 2451992847636249043954692995549777777776Mb upgrade	£2.95
520 ST2 49039856952724980879093859910995555555552Mb upgrade	£2.95
520 ST2 98079713905449961758187719821991111111112Mb upgrade	£2.95
520 ST2 1961594278108998351763754396398222222224Mb upgrade	£2.95
520 ST2 3923188556217996703527508792796444444444Mb upgrade	£2.95
520 ST2 7846377112435993407055017585592888888888Mb upgrade	£2.95
520 ST2 15692754224871986814110103111945777777776Mb upgrade	£2.95
520 ST2 31385508449743973628220206233891111111112Mb upgrade	£2.95
520 ST2 6277101689948794725644041246778222222224Mb upgrade	£2.95
520 ST2 12554203379897589451120824933556444444444Mb upgrade	£2.95
520 ST2 25108406759795178902241649867112111111112Mb upgrade	£2.95
520 ST2 5021681351959035780448329973422222222224Mb upgrade	£2.95
520 ST2 1004336270391807156088655994684444444444Mb upgrade	£2.95
520 ST2 2008672540783614312177311989376888888888Mb upgrade	£2.95
520 ST2 4017345081567228624354623979377777777776Mb upgrade	£2.95
520 ST2 80346901631344572487094715587555555	

HJ100I INKJET

Inkjet printers are taking over the world, or so it seems from here. Peter Crush babysits Brother's latest offering

There's no stopping them, is there? New inkjet models just keep on appearing! Until recently there have been three major varieties: the HP Deskjet range, the new Epson variety, and the Canon Bubblejet range.

Although HP were the first in the inkjet stakes, with Epson as a late entry, Canon caused quite a stir when they released their Bubblejet BJ-10 - it's tiny, portable and produces beautiful output. Clone versions of this 360 dpi machine soon appeared, including Brother's first effort, the HJ100. This has now been superseded by the HJ100I, and we've given it a once over.

The HJ100I doesn't look much different from the original Canon Bubblejet or other look-alikes, such as Star's Starter SJ48. It's very compact - looking more like a small portable laptop computer than a printer - but

when you hinge up the lid, its printing abilities become apparent.

The multi-function control buttons are all on the top panel, a standard Centronics parallel port is on the right hand edge, and the power lead plugs in on the left from a separate power supply unit. If you want, you can run the printer from an optional NICAD powerpack which fits inside the little machine, freeing you from the constraint of needing a mains socket nearby.

When it comes to printing, character spacing and letter/draft quality can be selected via the switches on the top panel. Selection of the font you require has to be done through your software. This is no problem if you have a word processor like *Protext*, where fonts can be chosen from the style menu. With a "graphical" word processor like *Write On* or *That's Write* you're not



■ The HJ100I looks a bit like a Canon Bubblejet printer with a Brother logo printed on it - with its three emulation modes, it can suit most of your needs by becoming an IBM Proprinter or an Epson

Three-way personality

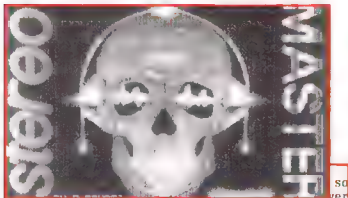
The HJ100I is a deceptive little machine - it can impersonate three different types of printer.

Under its cover is a set of 16 switches - by adjusting these, your diminutive Brother printer can suddenly become either an IBM Proprinter, a Canon Bubblejet or an Epson 24-pin.

The "printer" mode has two fonts in the form of the *Universal* and *Elite* typesets, and these are

printable at 10, 12, and 17 characters per inch plus proportional spacing. Canon Mode has the Courier typeface only, in the same range of spacing as the Proprinter mode, plus the newer looking proportional spacing. The Epson Mode has the *Screen* and *Draft* typefaces at 10, 12, 15, 17 and 20 cpi, plus proportional spacing.

This versatility ensures that you can use your "serious" software with the HJ100I, since most programs expect to have drivers to match at least one of its three modes.



■ The text output (right) is terrific, but then all Bubblejet clones produce text that's sharp and crisp and even. The skeletal chap above is an example of the printer's graphic capabilities - it lacks the banding exhibited by some inkjet printers.

With the Amiga version ScanPaint, the easy scanning and manipulation of images can be saved as either PC or Macintosh files. The scanning software enables you to lighten, enlarge, reduce, mosaic and so on. The software mentioned with all the software mentioned

limited by the Brother's few typefaces, but can use the numerous fonts available with these programs. Likewise, if you are printing DTP documents from software like *Timeworks* or *PageStream*, any text is created as a bit image and bypasses the printer's font limitations. Printing speed is not that fast, but the output quality is excellent.

Verdict

With plenty of competition, the HJ100I inkjet needs extra features to set it apart. It supplies them in the shape of its three printer emulation modes, its ease of operation and the fact it's available in the shops for well under £200 - and that's less than the other inkjet clones. It has most acceptable print quality, it is remarkably quiet and is extremely easy to use. Recommended **stf**

HJ100 inkjet

£345, Brother
☎ 061 330 6531

Highs

- Good print quality
- Easy to use
- Cheap to buy
- Dead quiet

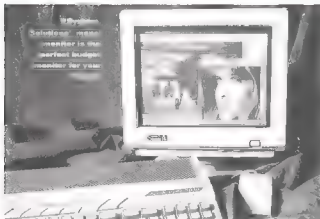
Lows

- Only a limited number of built-in fonts

What else?

- Canon BJ-100i, £199, We Serve, ☎ 0705 647000
- Portable Deskjet, £528, Hewlett Packard, ☎ 0344 369369

SVGA MONO MONITOR



So you've lashed out £1,000 on a new Falcon, but you realise you can't afford to get a colour VGA monitor to go with it. You can use your old Atari colour monitor to get 640 x 400 pixels in true colour, but you have to use the Interlace mode and the flickering that this causes can be a bit of a strain on your eyes to say the least. What can you do?

Well, an excellent compromise is a VGA mono monitor. While you are going to lose out on the true colour modes of the Falcon, a mono

monitor is a perfect choice for the music and direct to hard drive recording software that is now available. You don't actually need colour to use 4T/FX, D2D Edit or Cubase Audio.

What's it like?

As always, System Solutions have been quick to see a gap in the market and have a reasonably priced, high specification FST SVGA 14 inch mono monitor available just begging to be linked to your Falcon. It has the familiar looking flat screen that many of the replacement ST mono monitors

have, with just brightness and contrast controls on the front panel. The back panel is also sparsely populated, with recessed vertical size, horizontal position controls and a focus control to sharpen the image. The rear panel controls can only be adjusted with a flat bladed screwdriver, there really should be no need to adjust these controls because System Solutions check each monitor thoroughly before it is dispatched to a customer. The monitor is mounted on a sturdy tilt and swivel base.

To connect the monitor to your Falcon you need to have the Atan VGA adaptor, if you don't already have one, it costs £9.95 from Atan UK - it would be sensible for Atari to bundle all three monitor adaptors with the Falcon as standard. The monitor connects to the VGA adaptor which is plugged into the monitor port. Once connected you can power up the monitor and the Falcon.

The picture on-screen is incredibly sharp, with excellent contrast between lighter and darker shades. If you have previously used an Atari mono monitor with an ST or TT, you'll be instantly at home with this monitor. Obviously, the lack of colour precludes much art and graphics use but the look of picture files on-screen

is very good. Programs like Colamus 5 and 4T/FX are instantly usable and the lack of colour makes no difference at all. The monitor is very easy on the eye as there is very little glare or reflected light. Once again, System Solutions have come up with a superb product perfect for the Falcon.

CLIVE PARKER

SVGA mono monitor

£149.95 System Solutions
☎ 0753 832212
Falcon030 only

Highs

- Excellent contrast, flat screen, just plug in and go, perfect for music or 4T/FX applications

Lows

- Lack of colour makes it a stop-gap solution, no speakers for sound output, not suitable for graphics programs.

What else?

- Nothing specifically for the Falcon although any PC supplier can provide a mono VGA monitor.

86

ICD PROFESSIONAL UTILITIES

If you have a hard drive then it's highly likely that you have an ICD interface of some kind lurking within the case linking your ST to the SCSI drive. One of the advantages of the ICD interface has always been the high quality of the utility software supplied with it, it is undoubtedly the best set of hard drive utilities available for your ST.

Until now, the ICD utilities have only worked with hard drives with a built-in ICD host adaptor, the new professional version now works with all SCSI hard drives that have been booted using ICD Boot Pro. This means that you can use this excellent set of utilities if you have a Mega STE, a TT or a Falcon030.

What you get

The basic utilities comprise of version 6.0.8 of the software supplied with all ICD SCSI host adaptors including the ICD, the hard disk maintenance program, ICD Cleanup, and a new program which enables SCSI drives to be extensively tested and edited.

Also supplied are the Atan MetaDos ICD-ROM drivers and ICD's

CD-ROM drivers enabling all SCSI CD-ROM drives to be connected to any ST with a SCSI interface.

This means that there is now no major SCSI storage device that cannot be used with your ST. The rest of the software consists of the standard ICD hard drive utilities, including a "quick and dirty" installation program, Accessory and CPX utilities, an eject program for Mac floppies, the HDUtils program, the ICD Pro booter, an ID checker, a disk speed checker and a program to search your hard drive for specific files.

The software is, without doubt, the best set of hard drive utilities you could wish to find for your ST. If you're at all familiar with ICD software you will be able to use all of the programs immediately. The ICD Formatter, along with all the other utilities, checks the SCSI bus and identifies the specific drive ID, if you have more than one drive connected you select the one you wish to work



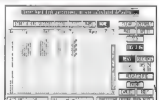
■ A major addition to the ICD utilities is the SCSI tester and editor. Apart from acting as a disk editor, hard drive commands can be transmitted to any device.

with. It's all so simple, everything is provided to service and maintain your hard drive.

Verdict

All the utilities have simple point and click options in each program. Replacing the Atan system software on a Mega STE with these utilities creates no problems - replacing the Falcon software, however, is not quite so simple - as soon as any of the other utilities tries to access the SCSI or the IDE bus then the Falcon has a tendency to lock up. This problem has been rectified in the newly updated version, so make sure you don't get the early version. Apart from that, the ICD Professional utilities certainly live up to their name.

CLIVE PARKER



■ Formatting or partitioning your drive is risky, but the ICD Formatter makes it painless by calculating everything for you. Remember you can wipe data from a disk just by selecting the wrong option.

ICD Pro utilities

£39.99 Ladbroke
Computing International
☎ 0772 203166
All STs, TT and Falcon030
Hard drive required

Highs

- Easy to use, top class software, works with any hard drive

Lows

- Easy to trash your hard drive if you are not sure of what you are doing

What else?

- Diamond Edge £49.95 from HiSoft
☎ 0525 718181

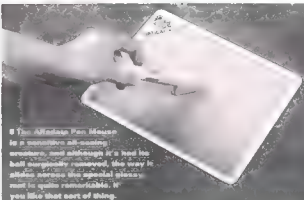
85

RODENTS GALORE

There is likely to come a time when you need more control over your mouse. Take your pick

Using your ST's mouse for drawing can be like wearing boxing gloves when you're trying to type. Clumsiness could now be a hassle of the past with

the pen mouse. Created along the principles of the original tools, pen mice combine the comfort and control of real pens alongside the technology of the computer mouse.



OPTICAL PEN MOUSE

This is an upmarket creature being slimmer and more compact than the Bio-Con Pen Mouse discussed just below, although the lead which connects it to the ST's mouse port is the same six feet long.

Because the optical pen mouse is lighter and smaller than that one, it is much easier to manipulate. Although it looks pretty much like a normal pen mouse when you first look at it, on its underside, instead of having a ball, a little lamp shines down under the

mouse onto a special mat provided, and optical sensors situated underneath pick up any movement made from reflections off the mat.

The mouse mat that you get with the mouse is treated with a fine black and white printed pattern which looks a bit like a miniature wire mesh, and unlike the usual soft foam finish, this mat is hard and smooth with a high gloss surface. The special optical pen mat is very neat and takes up a bit less room than a typical soft mouse mat.

Verdict

This mouse is a very smooth operator indeed. Sliding the mouse about on its glossy mat feels pleasing, it positively glides over the shiny surface, and you don't have to press very hard. You can easily manage accurate control of the on-screen pointer, and you soon forget that you are holding anything, or that it's attached to your ST. Even though this pen is pretty expensive, it's the sort of tool any self-respecting ST artist should have.

PETER CRUSH

Optical pen mouse

£35.95 Gastelner
☎081 365 115

Highs

- Incredibly smooth and comfortable to use. Comes with a special mouse mat.

Lows

- Expensive. What else?
- Just the Bio-Con mouse below.

81

BIO-CON PEN MOUSE

Shaped like an extremely chunky pen, the Bio-Con mouse from Ladbroke Computing is moulded and styled to make it reasonably comfortable and nat-

ural to manipulate - similar to the way in which you would hold a real pen or a brush.

At the end where you would expect the nib to be, this pen mouse

has a plastic ball, in appearance it looks rather like a giant roller-ball pen, or a smaller version of a standard mouse's ball. When this ball contacts your mouse mat and the Pen Mouse is moved about, the on-screen mouse pointer is activated, so you can "write" with the pen and the pointer duplicates your actions on the monitor. Ordinary ST mice have two big buttons but this mouse has three smaller buttons, mounted so that you can operate them with your finger. Only two of them actually do anything, as ST mice only need two buttons. The whole thing works smoothly, even though it looks awkward and needs more contortions from your fingers. You can do all the usual mouse functions, like double-clicking, dragging files about on-screen and marking blocks of text in a word processing program.

Verdict

The pen mouse falls down somewhat in its design and shape. It's a touch too large, and the angle it makes with

the desk is too upright, making it rather awkward to use for long periods. It increases the leverage effect of the cable, which tends to pull the device backwards even though you need to keep it fairly upright for the roller-ball to work properly. If, however, you position your mouse mat in front of the ST keyboard, rather than to the right, the mouse becomes much easier to use.

PETER CRUSH

Bio-Con Pen Mouse

£24.99 Ladbroke
☎0772 203166

Highs

- Feels smooth.
- Works for occasional artwork.

Lows

- Uncomfortable to hold.
- What else?
- Just the optical mouse above.

70





OPTICAL DRIVE

What, a CD-ROM with delusions of floppyness? No, it's just an optical drive that works with your ST. Clive Parker takes it to pieces and ends up with a few bits left over...



It's incredible how quickly you can fill up your hard drive these days, isn't it? What with desktop publishing programs like Colamus and graphics packages like DA's Vector you find yourself having to decide which applications to archive and which ones to remove from your drive. The worst is, you're bound to find that as soon as you remove or delete a file, you need it.

So, what's the answer? Well, you could always buy another, larger, hard drive. This used to be the only course to take but now there are a couple of other alternatives available. The 21MByte floptical drive reviewed last month is one option you could try, a tentatively you could get yourself a magneto-optical disk drive.

A magneto-opto what?

A magneto-optical disk drive is a special type of SCSI optical drive which is a cross between a CD-ROM drive and a normal hard drive – the main difference being it uses removable optical disks capable of storing up to 128MBytes of information.

One of the pitfalls of CD-ROMs is that your ST can't save data to the aser disk because the drive is limited to Read Only mode. A magneto-optical drive connected to your ST, however, is just the same as a hard drive – data is written to or erased from the disk by normal file operations. The disk itself is almost exactly the same size as a normal 3.5 inch floppy disk apart from being twice as thick – a bit like stacking two floppies on top of each other.

What's it like?

Power's magneto-optical drive is supplied either as a standalone unit with 25-way D and 50 Centronics sockets, or as a bare drive which can be

mounted in a tower case. The drive itself uses an IBM mechanism with standard SCSI connections mounted in a sturdy steel case. The case contains the drive, power supply and fan and is reasonably quiet when in use. In fact, you can't hear the drive being accessed at all, just the cooling fan.

The only controls on the drive are the disk eject button, SCSI ID

optical drive your ST doesn't recognise that the drive's there. All you need to do to get around this is use the ICD format software and your ST immediately identifies the drive and the optical disk without any problems. One point to note, the optical drive must always have a disk in it when booting the system, otherwise the partitions are not initialised.

The final verdict

If you are using a hard drive with a SCSI through port with your ST then you should have no problems connecting up the optical drive, you just need to get a SCSI to SCSI lead – Power Computing supply suitable leads if required. Sadly though, this method of storing data is not going to be available for the Falcon until Atan upgrade the HD utilities to cope with this type of drive.

Optical drives are slower than hard drives, the average data transfer rate is 500K per second, about a third of the speed you get on modem drives, and the average access rate is 46ms, again about a third of the speed of a hard drive.

The initial cost of getting the external drive is high, and you have to add the price of an AdSCSI host

adaptor to the price, it's no good getting the ICD Link because they just don't work together.

Extra disks are only £35 each for a further 128MBytes of storage capacity – once you have three optical disks, for example, you'll have spent around £1,170 and have 392MBytes of storage space. Adding another 128MBytes costs just £35 for an optical disk instead of £400 for an additional hard drive.

If you're desperate for more storage space and are likely to be needing more and more in the future, the magneto-optical drive could be just what you're looking for, that is if you're prepared to make the hefty initial investment. **stf**

"Once you have three optical disks you'll have spent £1,170 and have 392MBytes of storage space"

switch and the power switch underneath. Neat and tidy.

To get it working with your ST just use an ICD AdSCSI host adaptor and connect the drive to the external SCSI port of your ST and boot up the system. This is when you come up against a bit of a problem. As soon as you try installing the Desktop drive icons so that your ST can read the

■ Once you've partitioned the disk in your optical drive it divides up into four 32MByte sections represented here by CD icons. This adds up to your full 128MByte capacity



Optical drive

Power optical drive, £999 external drive, £729 internal drive, one disk included, Power Computing, ☎ 0234 843388, ICD host adaptor required

Highs

- Quiet, reasonably fast and efficient.
- As easy to use as a standard hard drive.
- Extra 128MByte optical disks just cost £35 each.

Lowes

- Initially very expensive.
- Doesn't work with the Falcon.
- Doesn't work with i486 Link.

What else?

- Floptical 21MByte drive with ICD Link, £399, Ladbroke, ☎ Computing International, ☎ 0772 203166.



Analogic Computers (U.K.) Ltd

Unit 6, Ashway Centre,
Elm Crescent,

Kingston-Upon-Thames, Surrey KT2 6HH

Mon-Fri. 9am to 7pm Sat 9am to 5pm

TEL: 081-546-9575

FAX/TEL: 081-541-4671

ANALOGIC
ANALOGIC
ANALOGIC

THE OFFICIAL ATARI REPAIR CENTRE

• COMPUTERS • PRINTERS • • MONITORS • REPAIRS WITHOUT DIAGNOSTIC FEES

520/1040 ST/STMF/STFM/STE	£59.95	including delivery back by courier service
SM124, SM125, SM144	£59.95	excluding pickup and delivery by courier service
SC1224, SC1435, CM8833	£69.95	excluding pickup and delivery by courier service

- ✓ Fixed charges to save your valuable time waiting for quotation
- ✓ Charges include next day delivery by courier service
- ✓ Door to door service for pickup and delivery
- ✓ All computers insured in transit
- ✓ Very fast turnaround

- ✓ Visit us for while-u-wait repairs at no extra charge
- ✓ Absolutely free diagnostics. Not even a penny charged if you decide to postpone repairs for your own personal reasons and no questions asked
- ✓ 90 days warranty
- ✓ Technical helpline 6 days a week for all customers

★ We pick up computers for repairs and memory upgrades for Next Day delivery to us by Courier Service for only £5.00 + VAT

MEMORY UPGRADES

520 STF/STFM to 1 Meg	* £59.95	520 STE to 1 Meg	* £17.95
520 ST/STMF/STFM/STFM to 2.5 Meg	£89.95	520 STE to 2 Meg	* £59.95
520 ST/STMF/STFM/STFM to 4 Meg	£139.95	520 STE to 4 Meg	* £114.95

EMULATORS and ACCELERATORS

PC Speed	£89.95	AT Speed C16	£199.95
AT Speed 8	£134.95	AD Speed ST	* £144.95

*FREE FITTING

STFM, STE, FALCON 030 COMPUTERS

	512k	1 Meg	2 Meg	4 Meg	4 Meg + 65 Meg Hard Drive
520 STE Discovery Xtra Pack II	£224.95	£239.95	£279.95	£339.95	-
520 STFM Discovery Pack	£159.00	POA	POA	POA	-
1040 STE Family Curriculum Pack II	-	£274.95	£334.95	£394.95	-
Falcon 030	-	POA	-	POA	POA

NEW

STE TOS SWITCHER

with Hardware Switch
Solderless DIY Kit

STE TOS SWITCHER - £29.95 STE TOS 2.06 ROMS - £39.95
STE TOS SWITCHER - 2.06 ROMS - £59.95

Please ring for attractive dealer prices

MONITORS

AMITAR £129.95
including VAT
High Resolution Monochrome Monitor

Philips CM8833 Mk II POA

POWER SUPPLIES

STFM/STE Power Supplies (Service Exchange) £39.95
NEW STFM/STE Power supplies with ONE YEAR WARRANTY £49.95

ACCESSORIES and INTERFACES

STE/STFM Scan Lead	£14.95	Sound Mouse	£14.95
STE/STFM Lead to Philips CM8833	£14.95	Dust Cover	£1.95
Philips CM8833 Dust Cover	£9.95	Mouse Mat	£4.95
Two joystick Mouse Port extender		10 Bank Sony Discs	£9.95
Lead	£5.95	Forget Me Clock	£21.95

DISK DRIVES

High Density 3.5" floppy Drive	£34.95
High Density 3.5" Internal Drive + Module	£79.95
1 Meg 3.5" Internal Drive	£44.95

PRINTERS — Please ring for Star, Citizen and HP range



- A. prices include VAT and NEXT DAY DELIVERY subject to availability
- Fixed charge for repair does not include Disk Drive Replacement & Keyboard
- All prices subject to change without notice
- We reserve the right to refuse any ST Repair
- Please allow 5 working days for cheque clearance

VISA

GUARANTEED SAME DAY DISPATCH (subject to availability)

NOW AVAILABLE NEW TOS 2.06

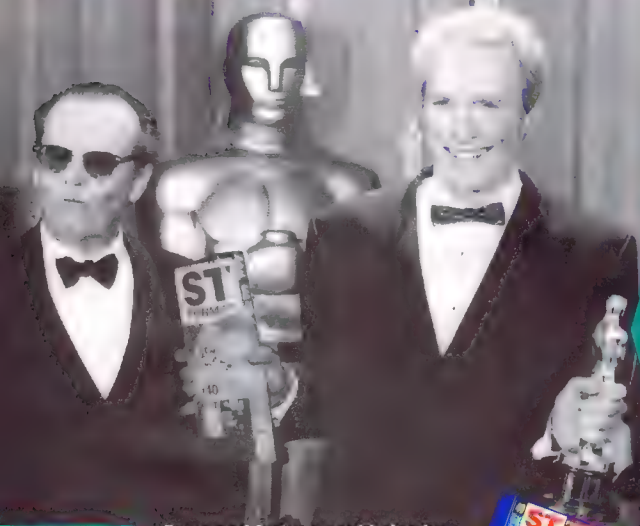
1040 STFM £59.95 including Decoder and ROMs. You have an option for upgrading to the new 1040 STFM line per old 1040 as and when you wish

NEW! WIN A C O U R I E R S E R V I C E

Perfect! Service with no charge!

WHILE U-WAIT!!!

SUBSCRIBE



ST
FORMAT

Fame and fortune could also be yours depending on the magazine you read - make sure you get your best chance to make your mark with a subscription to **ST FORMAT**.

It's a great read and includes a Cover Disk packed with great programs each month.



PHONE NOW ON 0458
OR SIMPLY FILL IN THE COUPON AND PUT



AND WIN!

ST When you buy
FORMAT **ST FORMAT** you
win every time...
to make sure you don't
risk missing out, you
need to subscribe.
STF gives you all this -
and more!

LATEST NEWS

We bring you the most
up to date news and
in-depth analysis of
what's all going to
mean to you.

Whoever's going
to rule the ST world,
you hear it first with STF.

FEATURES

Find out about
everything you can do
with your ST from art
to comms, from DTP
to music with our
informative and
lively features.

REVIEWS

Read definitive
reviews of the latest
ST hardware and
software to hit the
streets written by
our team of experts
- people who know
the ST inside and out.

GAMES

ST FORMAT shows
you exactly what to
expect from a game -
we only review
completely finished
games so you can
be sure those are
reviews you can trust.

When you subscribe you can
choose one of these fantastic
packages - as a gift!



CIVILIZATION



ED HAK

"Civilization's a brilliant brain-



"Ed Hak is a trouble-free and

By subscribing you also

- Guarantee your personal copy of the magazine every month
- Get **ST FORMAT** delivered to your door
- Have the very first crack at all the **ST FORMAT** special offers
- Receive a letter from the Editor each month including the latest news

SUBSCRIPTIONS

Name _____

Address _____

Postcode _____

Telephone _____

I would like ☒ **CIVILIZATION** ☐ **ED HAK** as my free gift (please tick one)

12 ISSUES ☐ UK £39.95 ☐ EUROPE £67.80 ☐ REST OF WORLD £96.85

To ensure you receive your magazine and Disk quickly and in perfect condition,
all overseas subscriptions are sent Air Mail

Method of payment - please tick appropriate box

Access ☐

Visa ☐

Cheque ☐

PO ☐

Credit card No _____

Expiry date _____

Please tick here if you do not wish to receive
direct mail from other companies ☐

Please make all cheques payable in pounds sterling to:
Future Publishing Limited.

SEND THIS FORM TO: **ST FORMAT SUBSCRIPTIONS**,
Future Publishing Ltd, FREEPOST, Somerton, Somerset, TA11 7BR.

No stamp required if posted in UK, Channel Islands or the Isle of Man

PLEASE NOTE! THIS COUPON IS ONLY VALID UNTIL 31 AUGUST 1987

ST/MAG/0883

74011

IT IN THE POST

BACK ISSUES

Every issue of **ST FORMAT** you can learn something new about the capabilities of your ST - so get the issues you've missed



JULY 1993

Issue 22
Builds 817 demo, the complete *Piran Pilot* and *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



JUNE 1993

Issue 23
Builds *Legends of the Hidden Valley*, three more games: *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



MAY 1993

Issue 24
Builds *Big Accounts* demo, three games: *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



APRIL 1993

Issue 25
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



MARCH 1993

Issue 26
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



FEBRUARY 1993

Issue 27
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



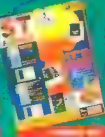
JANUARY 1993

Issue 28
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



DECEMBER 1992

Issue 29
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



NOVEMBER 1992

Issue 30
Builds *HyperRAM*, *Piran Pilot*, *Composer Ties*. Includes: Make music with your ST, Summer school, technical news, CD-ROMs, and a 100% factor.



SPECIAL!

SPECIAL EDITION

Inside: The essential information packed full of game reviews, "serious" software - including DTP, business, utilities, PD and lots more - and hundreds of other bits. Absolutely unmissable.

ORDER HERE OR CALL - 0450 74011

We have some other issues available in small numbers - phone to check availability: 22 (DTP, word processing, *Daycap*), 23 (build a 3D world, and out about comms), 24 (*Limbo*, *ST* video), 25 (memory upgrades, *amulet*), 27 (graphic detail, games to last 1,000 years), 29 (introduction to information sequences), 33 (raytracing), 36 (expand your system), 37 (great games), 38 (*Spectrum* 512, *Summer School*, *Sensible Soccer* demo).

Please use the coupon below. Prices per issue include the Cover Disk, printing and postage. Please note that issues 23, 36, 37, 38, 40, 41 and 42 cost a bit more because you get two disks. Each copy costs - in the UK £5.99, in Europe £5.49 and elsewhere £7.99. Add £1 each for issues 23, 37, 38, 40, 41, 42 and the Special.

BACK ISSUES

Name _____
Address _____
Postcode _____ Telephone _____

Please send me the back issues I have circled

Issue: 22 23 24 25 27 29 33 36 37 38
40 41 42 43 44 45 46 47 48 Special
UK £4.00, EUROPE £5.49, Elsewhere £7.50* per copy
*Plus 32, 37, 38, 40, 41, 42 and the Special add £1 extra per copy

Method of payment - please tick appropriate box

☐ Access ☐ Visa ☐ Cheque ☐ PD

Credit card No

Expiry date

Please tick here if you do not wish to receive direct mail from other companies

Please make all cheques payable in pounds sterling to:
Future Publishing Limited.

SEND THIS FORM TO: ST FORMAT BACK ISSUES,
Future Publishing Ltd, FREEPOST, Somerton, Somerset, TA11 7BR.

No stamp required if posted in UK, Channel Islands or the Isle of Man

PLEASE NOTE! THIS COUPON IS ONLY VALID UNTIL 31 AUGUST 1993

ST/M/MS/0730



ST FORMAT ISSUE 28

SEIKOSHA - QUALITY PRINTERS

24 PIN 240 CPS 80 COLUMN

NEW! COLOUR PRINTER



ON SITE WARRANTY OPTION

- Seikosha SL-95 - 24 pin 80 col
 - 240cps SD 192cps LO
 - 43K Printer Buffer + 9 Fonts
 - Parallel Interface
 - Graphics Resolution 360 x 360 dpi
 - Epson LQ860/860/260/250 Emulation
 - Colour Printing as Standard (no colour ribbon)
 - Semi Auto Single Sheet Feeding as standard
 - Second Ribbon Drive for Black Printing (Black Ribbon - Standard Extra)
 - Optional Automatic Cut Sheet Feeder
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £249.00
STARTER KIT £39.00
TOTAL VALUE £288.00
SAVING £85.00
SILICA PRICE £199.00

£189

18 Ref PRI303

AT AFFORDABLE PRICES

FREE! FROM SILICA

- DELIVERY**
- HELPLINE**
- AMIGA DRIVER**
- STARTER KIT**



FREE! FROM SILICA
£29.38

- Every Seikosha dot matrix printer from Silica comes with a FREE Starter Kit worth £29.38 (£25 + £3.88) includes all you need to get up and running with your new printer
- 3 1/2" Disk with Amiga & ST Printer Drivers
- 1 8 Metre Parallel Printer Cable
- 200 Sheets of Quality Continuous Paper
- 100 Continuous Tractor Feed Address Labels
- 5 Continuous Envelopes on Tractor Feed

9 PIN 192 CPS 80 COLUMN



ON SITE WARRANTY OPTION

- Seikosha SP-1900 Plus 9 pin 80 column
 - 192cps Draft 48cps NLO
 - 1K Printer Buffer + 2 Fonts
 - Parallel Interface
 - Graphics Resolution 144 x 72dpi
 - Epson and IBM Emulation
 - Auto Sheet Feeder Option
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £149.00
STARTER KIT £29.00
TOTAL VALUE £178.00
SAVING £64.00
SILICA PRICE £109.99

BEST BUY! £109.99
+VAT = £129.24
Ref PRI 6195

24 PIN 240 CPS 80 COLUMN

- Seikosha SL-95 - 24 pin 80 col
 - 240cps SD 192cps LO
 - 43K Buffer + 2 Fonts
 - Printer Buffer
 - Graphics Resolution 360 x 360dpi
 - Epson LQ860 Emulation
 - Semi Auto Single Sheet Feeding as standard
 - Second Ribbon Drive for Black Printing (Black Ribbon - Standard Extra)
 - Optional Automatic Cut Sheet Feeder
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £249.00
STARTER KIT £39.00
TOTAL VALUE £288.00
SAVING £85.00
SILICA PRICE £199.00

£159

ON SITE WARRANTY OPTION

9 PIN 300 CPS 80 COLUMN

- Seikosha SP-2400 9 pin 80 column
 - 300cps Draft 48cps NLO
 - 1K Printer Buffer + 2 Fonts
 - Parallel Interface
 - Graphics Resolution 144 x 72dpi
 - Epson and IBM Emulation
 - Auto Sheet Feeder Option
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £249.00
STARTER KIT £39.00
TOTAL VALUE £288.00
SAVING £85.00
SILICA PRICE £199.00

£139

ON SITE WARRANTY OPTION

£219

24 PIN 240 CPS 136 COLUMN

- Seikosha SL-130 24 pin 136 column
 - 240cps SD 192cps LO
 - 43K Buffer + 2 Fonts
 - Printer Buffer
 - Graphics Resolution 360 x 360dpi
 - Epson LQ860 Emulation
 - Semi Auto Single Sheet Feeding as standard
 - Second Ribbon Drive for Black Printing (Black Ribbon - Standard Extra)
 - Optional Automatic Cut Sheet Feeder
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £249.00
STARTER KIT £39.00
TOTAL VALUE £288.00
SAVING £85.00
SILICA PRICE £199.00

£259

- Seikosha SL-130 24 pin 136 column
 - 240cps SD 192cps LO
 - 43K Buffer + 2 Fonts
 - Printer Buffer
 - Graphics Resolution 360 x 360dpi
 - Epson LQ860 Emulation
 - Semi Auto Single Sheet Feeding as standard
 - Second Ribbon Drive for Black Printing (Black Ribbon - Standard Extra)
 - Optional Automatic Cut Sheet Feeder
 - 12 Month Repair Warranty
 - FREE Silica Printer Starter Kit
- PRINTER RRP £249.00
STARTER KIT £39.00
TOTAL VALUE £288.00
SAVING £85.00
SILICA PRICE £199.00

£299

SILICA SYSTEMS OFFER YOU

- FREE OVERNIGHT DELIVERY** On all 1 day orders shipped in the UK mainland
 - TECHNICAL SUPPORT HELPLINE** Team of technical experts at your service
 - PRICE MATCH** We normally match competitors on 'Same product - Same price' basis
 - ESTABLISHED 13 YEARS** Proven track record in professional computer sales
 - £1.5 MILLION TURNOVER** (with 50 staff) - Cost, reliable and profitable
 - BUSINESS + EDUCATION + GOVERNMENT** Volume discounts available 081-300 0888
 - SHOWROOMS** Demonstration and training facilities at all our stores
 - THE FULL STOCK RANGE** All of your requirements from one supplier
 - FREE CATALOGUES** Will be mailed to you with offers + software and peripheral details
 - PAYMENT** Major credit cards, cash, cheque or monthly terms APR 29.9% - written quotes on request
- before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and accessories, or help and advice. And, will the company you buy from protect you, with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, with our unrivalled experience and reputation, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon here for our latest FREE literature and begin to experience the 'Silica Systems Service'.

MAIL ORDER HOTLINE 081-309 1111

SILICA SYSTEMS

S

MAIL ORDER

- LONDON SHOP** 12 The Mews, Hammersmith, Rd, London W6 7DB Tel: 0181 309 1111
- LONDON SHOP** 12 The Mews, Hammersmith, Rd, London W6 7DB Tel: 0181 580 4000
- SOCUP SHOP** 12 The Mews, Hammersmith, Rd, London W6 7DB Tel: 0181 580 4000
- ESSEX SHOP** 12 The Mews, Hammersmith, Rd, London W6 7DB Tel: 0181 580 4000

PLEASE SEND A BROCHURE ON THE SEIKOSHA RANGE

Name: _____ Surname: _____ Date: _____

Company Name: _____ Job: _____

Address: _____

Postcode: _____

Telephone: _____

Other comments: _____

WeServe of Hampshire Established 8 years

Atari Workstation /Expansion System

Monitor stand with shelf for drives etc.
Strong metal construction made from 14SWG steel epoxy coated. No Cables or mouse are included.

Special price **£27.50**

All Citizen printers have a 2 year warranty

Swift 90

Advanced 9pin printer (Swift 9 replacement) * optional colour. Price with cable & paper

90 Mono **£145**

90C Colour **£169**

Swift 240

Advanced 24pin printer (Swift 24 replacement) * optional colour. Price with cable & paper

240 Mono **£245**

240C Colour **£265**

Swift 200

Enhanced 24pin printer (Swift 224 replacement) * optional colour. Price with cable & paper

200 Mono **£200**

200C Colour **£224**

Swift Auto Sheet Feeder **£79**

Swift 24E

with cable Mono **£199**

& paper Colour **£223**

Citizen 120D +

with cable Mono **£115**

& paper

Special Offer

Philips CM8833 MK2

14" Stereo Colour Mon. 240V UK

0.42mm Medium Res

£189 **£177**

with cable without cable

New monitors with damaged boxes very limited stocks

Panasonic KXP1123

Probably the best 24pin mono printer available.

With cable & paper **£169**

Panasonic/Epson

KXP1170 9pin 134

KXP1124 24pin 215

KXP1180 9pin Colour 189

KXP1123 24pin Colour 229

Epson LX400 9pin 119

Epson LQ100 24pin 189

Epson LQ570 24pin 265

Olivetti JP350 inkjet 329

Prices include VAT cable & paper

Happy Mouse

for Atari ST & Amiga **£14.90**

Golden Image Mouse

for Atari ST & Amiga **£13.90**

Special Offer

1/2M Simm

£8.90

0.5M Simm ram upgrade	8.90
2M Simm ram upgrade	55.00
4M Simm ram upgrade	110.00
0.5M Xtra ram Deluxe	39.00
2M Xtra ram Deluxe	85.00
4M Xtra ram Deluxe	139.00

Deskjet 510

HP 300dp Inkjet printer Laser

quality at dot matrix price

3 year warranty. Price with cable & paper **£319**

Deskjet 500 C

300dp colour inkjet printer

Colour laser quality at 1/10 of the cost

3 year warranty. Price with cable & paper **£419**

Deskjet Protable

3 year warranty. Price with cable & paper **£339**

Printer Dust Covers

most types in stock from **£4.70**

Printer Drivers

Canon BJ 104lex £5

Citizen Swift £5

Ink Refills

BJ10 twin refill various colours 15.90

Deskjet twin refill various colours 15.90

(We stock 200 types of ribbons)

Printer Packs

All printers are supplied with a printer pack

consisting of printer paper and a connection cable.

Free of charge

A stand is £5.00 extra (with a printer)

Canon BJ-200

Inkjet + Sheet Feeder

with cable & paper **£299**

Canon BJ-10ex

360dp Inkjet printer

with cable & paper **£199**

BJ10 Auto Sheet Feeder **£52**

Star SJ-48

360dp Inkjet printer

with cable & paper **£199**

Star LC100

9pin colour with cable & paper **£149**

Star

LC20 Mono 9pin 123

LC200 Colour 9pin 179

LC2420 Mono 24pin 185

LC24100 Mono 24pin 175

LC24200 Colour 24pin 249

Prices include VAT cable & paper

True Mouse

for Atari ST & Amiga **£14.90**

Falcon

16MHz 32bit CPU, 1.44M floppy.

1-14Mhz, 8 channel sound

1Mram No HD **£550**

4Mram 65MHz **£899**

Floppy Drives

Cumana CSA354

1M external floppy. High quality build.

The most reliable drive you can buy

B4 tracks. STT rating 90%

£65 While stocks last

Internal 1M Drive

£47.00

ViewTek VT12

12" Mono monitor for ST/falcon **£65**

NEW Monitor

Tatung Hi-Res Mono

14" Hi-Res Mono Monitor with cable **£129**

Stereo Speakers

SB-30 Low Cost £9.90

Zydec ZV-FI £33.50

All printers are suitable for use with any ST & monitor without Stereo sound

Philips CM8833 MK2

14" Stereo Colour Mon. 240V UK

0.42mm Medium Res. + game

£215 **£211**

with cable without cable

Special Offers

1st Word PLUS 34.00

First Basic - HiSoft 9.90

AB Zool by Microdeal 9.90

Atari Basic Source book & T 9.00

1st Word PLUS & TimeWorks 2 79.00

TimeWorks Publisher 2 54.00

HyperDraw by Alan 9.90

Muler Miller 9.90

Organiser by Triangle Pubs 13.90

ReedBum Spin Mono 9.90

NeoDesk 3 28.70

Prostat V4.3 49.00

Borodino game 4.00

All items subject to availability

Accessories

Joystick/Mouse twin extension 4.70

4 Player adapter lead 5.88

Atari ST Printer cable 5.99

Atari ST to ST serial lead 10.95

Atari ST Dust Cover 4.70

Mouse Mat (thick soft type) 4.95

Mouse House 2.95

Carriage on 50 + disk CS33

Phone for our 70 page catalogue. All prices include 17.5% VAT

EDUCATIONAL AND GOVERNMENT ORDERS WELCOME

All products have a 30 day money back & 12 month warranty

Prices are subject to variation without prior notification

Please phone for express clearance of cheques. Credit April 29 8%

Established 8 years. 3 minutes from M27 Junction 11. 15 mins from

Open 9 to 5.30 Monday to Friday & 9 to 5 Saturday. Carriage/order

Postage 94p or £3.53 Securicor 6.46 Securicor AM £1 75

ST/Format Dept. 40-42 West Street

Porchester Hants

PO16 9JW

Tel: 0705 647000

Aug 83

Technical Support 647400

Larger items delivered by Securicor

Weserve

Best for service

Telephone 0705 647000



CRAZY SOUNDS

Windows open with a swoosh, deleting files results in a burst of phaser fire and alert boxes scream "ne nene nene" at you in mocking tones. Welcome to life with your ST running a brilliant new program from Germany.

Crazy Sounds is a fun Auto Program and Desk Accessory combination that assigns sampled sounds to the various GEM functions of your machine. Different sounds can be assigned to individual keys, programs and most GEM events. You can even assign sound samples to play when a particular string of text appears in an alert box, window or in a program.

It sure is crazy

To use the program you need at least 1MByte of memory and TOS 1.4 or



above, the program does not work with older TOS versions. Sampled sounds are stored in memory. Setting up is a doddle. You copy the *CRAZYSND.PRG* to the Auto folder of your boot disk with the *CRAZYSND.INF* file and copy the samples you wish to use to a folder in the root directory called, er, Samples. If you are using a hard drive, copy all the samples to drive C, there are over

100 on three double-sided disks. Finally, copy *CRAZYSND.ACC* or *CSNDMINI.ACC* to the root of your boot disk. The main Accessory is used to set up the program parameters while the mini Accessory can be used if you are short of memory to toggle *Crazy Sounds* on and off.

It's completely teapot

To assign a sound to a function, call the *Crazy Sound DA* and scroll through the various functions in the left window, click on one to choose it. Now you can scroll through the sounds in the middle window until you find the one you want to use - select it and click on the speaker to hear what it sounds like. If you like it save the setup to the *INF* file in the Auto folder. And that's it.

Crazy Sounds is not a serious program and is not intended as such,

it's a fun program that brightens up your ST by giving it a touch of character. Don't play it too loud though, you can get sick of the constant Star Trek battles taking place on the Desktop. We never thought that using GEM could be this much fun.

CLIVE PARKER



German menus, huh? Well, don't worry. It doesn't matter because *Crazy Sounds* is simple to use. The large box on the left defines the actions that the sound sample is assigned to, the centre window displays the samples available and the window on the right enables you to set up the program parameters.

JOHN THE COMPOSER

With a little help from your friend... John - happy to assist music that you can then claim as your very own.



What do you need if you want to write songs? Talent - not necessarily; music theory - you can do without; your ST - essential.

If you've always fancied yourself as a bit of a composer but can't be bothered to do the hard work, why not let your ST do it all for you? *John the Composer* takes on the job of improvising music that you can then claim as your own... with as much of your own input as you want.

John is basically a music-type slave - you can decide how much musical freedom you give him by composing in one of three modes. The easiest mode - the one that requires least effort - is when you ask

John to play new compositions continuously. These tunes can get quite tedious as John goes through a load of chord progressions, bass lines, drum patterns and melodies reminiscent of merry-go-round tunes.

You can produce better sounding and more personal compositions if you help the program along a bit. Enter and edit the parameters for the song structure, chord selection and progression, the bass line, drums and melody and John works within

This is John's nerve centre - all parameters are changed via drop-down menus or by using the edit bar.



them to produce a tune which starts to sound promising. Just spot the bits you don't like, change the parameters accordingly until you're happy with the whole song. And there you go - you've just written a song.

Once you get used to the editing system and the parameters, you quickly realise that John can teach you a lot about writing structured pieces and improvisation. To get the best results you must use it with a full MIDI setup. If you don't have one, however, you can use your monitor or the audio stereo outputs if you have an STE, but, be warned, it doesn't sound very convincing.

Verdict

If you're interested in creating music without all the hassle or if you want to learn about the art of improvisa-

tion, *John the Composer* could be just the type of help you're looking for.

DAVID ROBERTS

John the Composer

E45 Newtropic
081 6911087
1MByte required
Medium and high res only

Highs

- Professionally put together.
- Changing the parameters and listening to the results is a very educational process.

Lowes

- Very specialised.
- Your first few pieces could put you off writing music for life.

What else?

- Improviser, E45, Creative Sounds - 0272 244395
- Creates four tracked lines over 16 MIDI lines.
- Jazz Improviser, E45, Creative Sounds - reaches real-time jazz improvisation.

IMAGECOPY 2

How does taking screen shots grab you? Peter Crush snaps up an image utility and gives it the thumbs up...



Screen snapping is just one of those things you never think about doing until you realise you actually need to.

Here at ST *FORMAT* we use screen grabs all the time and import them straight onto the magazine's pages in our desktop publishing program using them as illustrations.

If you use your ST mostly for graphics and art and are looking for a

really useful way of converting, say, a Digas picture into the TIFF file format, or vice versa. A concise and clear 60 page A5 manual explains all of this as well as the software's many other nifty operations.

To install the Accessory version, copy it onto your boot disk for a floppy drive system, or the boot partition of your hard drive. When you reboot your ST, the *Imagecopy 2* Accessory becomes available. Both this and the standalone version can be installed to display image files on which you can double-click from the Desktop. This is dead handy when you, at last, want to do is take a quick look at image files without having to load your art programs.

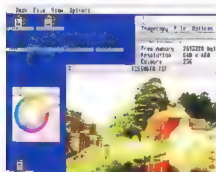
Because *Imagecopy 2* works in all resolutions, you can view pictures your ST could not otherwise display, like those produced in the file formats used on the Falcon. Don't expect to see 16 million colours though, your ST can only show 16. It gives you a rendition of the picture via *Imagecopy 2*'s colour mapping and dithering.

Verdict

Imagecopy 2 is the culmination of much effort, and it's been worth it. There is no better way to grab, view, convert and print out images with your ST. It runs on any ST, with any monitor, with most printers, and works with most image formats. What else could you want from an all-round image utility? **stf**



On a Falcon VGA screen, *Imagecopy 2* displays your grabbed images in full glorious colour. If you don't have a Falcon though, don't worry 'cos you get great quality image displays with all STs.



With *Imagecopy 2* you can display up to six GEM windows with a picture inside them.

good screen grabber, then take a look at *Imagecopy 2*.

This updated version has turned into an all-round image utility enabling you to grab images from screen in any mode and save them, display almost any image on all ST screens via colour-mapping, print images in mono or colour on most printers, and convert graphics between the many file formats.

Multicoloured snap swaps
Imagecopy 2 can load and save images in many file formats and is a

The full technical details

So, why is *Imagecopy 2* worth a *FORMAT* Gold rating? Well, for a start it...

Displays images in any ST, STX or Falcon030 Video mode. Colour-mapping and dithering is used to display images in video modes which contain fewer colours. You can display images in GEM windows or full-screen display modes.

Grabs images from screen in any ST, STX, TT or Falcon030 video mode by pressing **Alt+Image** and **<Help>**, or by selecting *Imagecopy's* Copy option... and then saves them to disk. You can copy images in times when the Desk menu is inaccessible, when a menu or dialog box

is displayed or from inside a program which does not provide access to Desk Accessories.

Prints images and screen dumps in black and white or colour on a wide range of printers, including **Postscript** printers. Contains up to 14.7 million different colours, and offers print scaling and a choice of half tones.

Provides a flexible rubber-banding system which enables you to select the exact area you require. *Imagecopy 2* works on all Atari monitors, TV screens and large screen monitors and even the "virtual" large screens provided by programs such as *MonSTer* and *Big ST*.



In this window you can fine-tune the colour balance, the image brightness, contrast, and the size and shape of your intended print.

Imagecopy 2

£19.95 or £10 for the upgrade from *Imagecopy 1.5* for the upgrade from *Imagecopy Colour*.

The ST Club # 0602 410241. All STs and Falcon030.

Highs

- Works on any system
- Displays most image formats

Lows

- Can't save all of the formats yet

What else?

- All alternatives come from the System Menu
- Freeze Frame is one of the best examples.



WHAT'S NEW IN VERSION TWO

Thanks to a lot of colour-mapping and dithering, you can now display images on any ST screen.

1. The new colour-mapping and dithering system allows you to display images on any ST screen.

2. The new colour-mapping and dithering system allows you to display images on any ST screen.

3. The new colour-mapping and dithering system allows you to display images on any ST screen.

4. The new colour-mapping and dithering system allows you to display images on any ST screen.

5. The new colour-mapping and dithering system allows you to display images on any ST screen.

6. The new colour-mapping and dithering system allows you to display images on any ST screen.

7. The new colour-mapping and dithering system allows you to display images on any ST screen.

8. The new colour-mapping and dithering system allows you to display images on any ST screen.

9. The new colour-mapping and dithering system allows you to display images on any ST screen.

10. The new colour-mapping and dithering system allows you to display images on any ST screen.

11. The new colour-mapping and dithering system allows you to display images on any ST screen.

12. The new colour-mapping and dithering system allows you to display images on any ST screen.

13. The new colour-mapping and dithering system allows you to display images on any ST screen.

14. The new colour-mapping and dithering system allows you to display images on any ST screen.

15. The new colour-mapping and dithering system allows you to display images on any ST screen.



50 PLACES TO GO WITH YOUR ST

There's much more to your ST than playing games - there are literally hundreds of things you can do with it. Next month we look at 50 brilliant ideas to enable you to get the most out of your machine - miss **ST FORMAT** at your peril

**Also featuring
in next
month's
ST FORMAT**

- Photo CD - up and running and amazing
- *The Patrician*, *Ancient Art of War in the Skies* and *One Step Beyond* - the completed versions reviewed
- Get more RAM into your ST than you dreamed possible!
- And loads more...

ST FORMAT

**ON SALE
TUESDAY
10 AUGUST
1993**

ST ANSWERS

Have you and your ST got a problem which is causing stress and worry? Tell the ST Answers team about it, they can help...

THE STF ADDRESS

Send all your ST related problems to ST Answers!
ST Format 20 Magazine
Stages, Bath BA1 2PH
Please don't forget to indicate the type of problem on the envelope.

ST CD-ROMs



When we are going to see an ST CD-ROM drive and games like those available on the PC? I

know there are plans for a Falcon CD-ROM but I'm reluctant to spend all that money on a new machine just to run CD-ROM games.

Stephen Bray, Widnes

stf: You may be surprised to know that the ST can already use standard SCSI CD-ROM drives using MetaDos and ICD's CD-ROM drivers. Both of these CD-ROM drivers are supplied with all new ICD AdSCSI host adapters as part of the hard drive utilities. Unfortunately, nobody has written any ST compatible CD-ROM games yet, and it seems unlikely that anyone will be doing so in the near future. This is a pity because CD-ROM based games for the ST have a great potential. ICD SCSI host adapters are avail-



If your software doesn't have Canon BJ-10ex printer drivers, switch your printer to Epson LQ mode and select Epson LQ drivers from your software.

able from System Solutions (0 753 832212), £99.95 with clock, £89.95 without clock and £79.95 for the Mega ST internal kit version.

tures in GIF file format, for a copy of the program send £5 to Rufus Developments, PO Box 562, Wimbourne, Dorset, BH21 2YD. To use your software with the BJ-10ex select the Epson LQ printer drivers supplied, giving you 360 dpi output from your printer. If you look at your printer manual there are details of the DIP switch you have to change to switch it to Epson mode

Snatcher



I have a Canon BJ-10ex and I would like a program that prints out screen shots. I cannot print using some of the software I use because they don't have BJ-10 drivers, how can I get around this?

Robin Armstrong, Dumfries

stf: The new version of BJChrome is now available from Rufus Developments for £5. The program is up to version 2.5 and can now handle pic-

Commodore Inkjet



I have been offered a Commodore MPS1270 inkjet printer by a friend, can I use it with my 1040 STE? I need to use with Protel, Timeworks and First Word Plus, if I cannot use it with these



GFA WORKSHOP

This is the place where you pose your tricky GFA Basic queries and Mac Marden answers them...

Tabulation

There is a command or way of sending information to the printer to print text at a certain column and row like the PRINT AT(x,y) and LOCATE commands for showing text on the screen at column, row?

Martin Balmer, Kent

stf: The command you are looking for is PRINT TAB(x), where x is the number of spaces from the left of the page before the text is printed.

Database one

I am creating a database from which I want to be able to input data into a number of different records. I then want to be able to save these records to a disk file, one each record and display it, one by one. What's the best way to do this?

Adrian Oldbury, Derby

stf: The best way we have found to do this is to allocate the same amount of disk space for each record and then

save them to disk in a Random Access manner so that all you have to do is set a pointer to a record number and then load it in, here's a short listing of the save routine to do this:

```
1 OPEN "r",#1,"PERSONAL INP",62
2 FIELD #1,24 AS name$,2 J
   AT("house#")
3 FIELD #1,24 AS road$,12 J
   AS town$
4 FOR i=1 TO 3
5 INPUT "Name" ;name$
6 INPUT "House Number" ;house#
   "house#")
7 INPUT "Road" ;road$
8 INPUT "Town" ;town$
9 LOCATE row=0$
10 LIST row=0$
11 LIST town=0$
12 PUT #1,1%
13 CLS
14 NEXT i%
15 CLOSE #1
```

Explanation of the listing.

Line 1 - Opens the file in random mode and allocates 62 Bytes per record.
2 & 3 - Sets up the structure of the record, that is 24 AS name\$, sets 24 spaces for the name.
4 - Do the following three times
5 - Get data from keyboard

9 - Set data into named strings.

12 - Write record to disk
13 - 15 Clear the screen, do the next input or close the file on disk.

To read a record from disk you would alter the % loop to read,

```
FOR i=1 TO 3
  GET #1,1% : read %
  record i%
  PRINT "Record number" ;i%
  PRINT
  PRINT "Name" ;name$
  PRINT "House number" ;house#
  PRINT "Road" ;road$
  PRINT "Town" ;town$
  LOCATE row=0$
  PRINT
  NEXT i%
  CLOSE #1
```

Rather than using a loop you could also set up the command word RECORD #n, x to point at a particular record to be read in, that is RECORD #1,3 would point to Record Three, ready to be loaded in

Please note that this method of loading and saving data is a lot slower than doing it sequentially.



COMMS



If you're into communicating with other ST users via modems but have a few problems, check this one out.



Don't confuse them to the max, don't load them and don't load them to your max... if you need more advice look for this icon.



HARD DRIVES



Proud of your big hys starting head? Yes, but you're also having trouble working with it - check out this icon.



Make printers a bit riding a bike... easy you know how you're alright, but if you don't this one's for you.



PROGRAMMING All our regular programming sections are hard - and this one deal with other programming queries - check out this icon.



ST PROBLEMS



So, you reckon your problem is special it doesn't fit in any other category? Well, check out our general ST problems icon.



STOS CORNER

programs then obviously it's a total waste of money.

Alan Hawker, Barry

stf: A quick check with Commodore confirmed that the MPS1270 supports both Epson LQ and IBM ProPrinter emulations, all you need to do is select the Epson LQ printer drivers from within ProText, Timeworks and First Word Plus and away you go.

TOS switchers



I want to upgrade to a Mega STE from my STFM but I am worried about software compatibility, how much of my software is incompatible? Can I install a TOS switcher into the Mega STE to retain compatibility?

Dan Saunders, Oxford

stf: Some older games are not TOS 2.06 compatible and do not run on the Mega STE. Generally, all serious software such as word processors, DTP and MIDI programs work without any problems. Mega STEs are no longer manufactured, so you may find it quite difficult to get hold of one now. There is no TOS switcher available for the Mega STE.

I want to be a PC



I have heard about the Macintosh and PC emulators being developed for the Falcon, can you install both emulators and be able to switch between them freely?

Will I be able to play PC games? **Matthew Chequer, Wiltshire**

stf: The two emulators that are under development both use the internal expansion slot inside the Falcon,

so you cannot install them both at the same time. Playing PC compatible games depends on how fast the PC emulator runs and whether it supports the screen modes required by

the game, the latest news we have about Falcon Speed from Compo is that it only runs in colour when using the popular Microsoft Windows.

```
PRINT CHR$(8); " "; CHR$(8);
      delete chr$

FOR counter=1 TO 10 : decrease counter

IF counter=<=1
  counter=1
ENDIF

IF a1=13 : return key
PRINT " "
ENDIF

IF a1=32 : print legal chr$
PRINT CHR$(a1)

AID counter=1 : increase counter

IF counter=>80 : check end of line
  counter=1 : reset counter
  PRINT " "
  LOOP (put your exit condition here)
ENDIF

counter=1 : line counter
```

Out of sorts

How can I sort some addresses into alphabetical order and save them? **William R Mogg, Gloucestershire**

stf: The annotated listing below should help you sort your array(s) into alphabetical order. Bear in mind that if you are using a DIMED statement for more than one dimension, that is DIM a\$(100,7), more programming is required, and temp\$ has to be DIMED as temp\$(1,7) and you have to program the swap for all seven fields.

```
DIM a$(5)
FOR i=1 TO 5
  GET names
  INPUT a$(i)
NEXT i

CLS
PRINT "Unsorted array"
FOR i=1 TO 5
  PRINT a$(i)
NEXT i

PRINT a$(i)
PRINT
PRINT
pointer=1
recursive sort routine
```

```
IF a$(pointer)=a$(pointer+1)
  temp=a$(pointer)
  place a$(pointer)
  in temp storage

a$(pointer)=a$(pointer+1)
swap a$(1) into a$
a$(pointer+1)=temp$
place temp$ into a$(1)
ENDIF

pointer=1
increase pointer
LOOP UNTIL pointer=>a1
loop until pointer >= a1
SUB a1,1
*** see text
pointer=a1
reset pointer
LOOP UNTIL
1 end recursive sort
PRINT "Sorted array"
FOR i=1 TO 5
  print sorted array
  PRINT a$(i)
NEXT i
```

*** We are reducing a by one as after the initial pass we know that at position a\$(5) is held the string with the highest ASCII value and we have no need to compare it again with the other strings, hence the name recursive sort.

Returning backwards

I am writing an address book diary and word processor. Can you please help me with some queries?

In Issue 34 you included a listing on how to recognise the <Backspace> key. When using this I cannot get the <Return> key to work. How can I make the text carry on to the next line when I hit the far right of the screen? Also when using the listing, when I backspace to the point the cursor started at, a message comes up saying "String too large" How do I overcome this? **Aaron Gibbs, Devon**

stf: The annotated listing below should help with your queries. The "String too large" message is because when you are deleting a character you are not deleting your pointer to overwrite the deleted letter, so the pointer would have been pointing at the next letter and eventually you would reach the end of your string length.

```
counter=1 : line counter

a1=INP(2) : wait for keypress

IF a1=8 : backspace
```

The Best of ST FORMAT



TWICE GREAT DISKS

OVER 350

TIPS FOR YOUR ST

188 PAGES

The Best of ST FORMAT



Packed with hundreds of tips and proven testing guides for beginners

- Two optional disks
- 11 introductory guides
- Hundreds of ST Answers
- Indexes to everything in ST
- Scores of techie terms explained

350

TIPS FOR YOUR ST



Have you ever tried to cram three and a half years of **ST FORMATS** into one single volume? Well, don't. We've done it for you. With over **350** techie tips, guides to get you started and scores of reviews, it's essential!

ESSENTIALS:

ST ANSWERS:

REFERENCE:

The Best of ST FORMAT

Name

Address

Postcode Telephone

Description Quantity Price

The Best of STF with disks (STBOOK D) £13.95

The Best of STF without disks (STBOOK) £9.95

Plus £1.45 per book P&P £1.45

Total order:

Method of payment - please tick appropriate box

☐ Access ☐ Visa ☐ Cheque ☐ PO

Credit card no

Expiry date

Please tick here if you do not wish to receive direct mail from other companies

To order by telephone, call 0458 74011

Please make all cheques payable in pounds sterling to:
Future Publishing Ltd

SEND THIS FORM TO: ST FORMAT Mail Order,
Future Publishing, FREEPOST, Somerton, Somerset TA11 7BR
You don't even need a stamp if you post this in the UK!

OPTIONAL!

For just an extra £4.00 you also receive two complementary disks.

These feature: ■ Accompanist - a power-

ful 11 Channel synthesizer. ■ Peak 11 - a

simulator to track up your music. ■ The ST-

11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-

11. ■ The ST-11 - a comprehensive guide to the ST-



It's not actually finding missing letters for crossword clues but it does possess

tucked away in its Options menu.

it 72% in last month's Public Sector pages and it does exactly the sort of thing you've been looking for. It's available on disk GD1925 from Goodmans International PDL (0 782 335650) for £2.75.

Bare problems



I have been given a bare 20MByte hard drive from an Amstrad PC. How do I connect it to my ST and what do I need to buy to get it working? How does my ST know I want to save files to the hard drive?
Kevin Bailey, North Yorks

ST: It depends on what kind of hard drive you have. If it is from an old Amstrad then it's either an MFM or an RLL drive. If it is one of these then you have to get an MFM to SCSI adaptor or an RLL to SCSI adaptor, these are very expensive and hard to find, you're better off buying a second-

Amstrad inaction



Where can I buy an Amstrad CPC464 emulator for the ST? I would like to play all my old favourite games.

Richard Robinson, Worcs

ST: There has never been an Amstrad CPC464 emulator available for the ST and it is unlikely that anybody will actually produce one. As with Mac and potential PC emulators, even if one was written, it is unlikely that you could use it to play games.

Call Compo on 0 480 891819 for the latest details and specs for Falcon Speed

Never a cross word



Do you know of any software that helps solve crosswords by printing all English words that match the letters entered in this kind of pattern, "RM?T"? My STFM has a single-sided

drive, so I need the program on a single-sided disk.

Martin Benchley, Kent

ST: You should upgrade to a double-sided drive! They aren't very expensive and are simple to fit. Power Computing (0 234 843388) supply the PC7201 drive for £39.95. Doing this gives you easy access to all ST software, hardly anything is released on single sided disks these days.

The program you are looking for is called Word Finder, we awarded

Your top ten questions

Every month we select the ten most interesting questions from our readers. This month's questions were: How do I connect a SCSI drive to my ST? What is the best way to upgrade my ST? How do I connect a SCSI drive to my ST? How do I connect a SCSI drive to my ST?

1. STFM upgrade
I have a hardware upgrade that turns an STFM into an ST6.

ST: No, there are too many major differences between the STFM and the ST6.

2. Buy a new printer?
I have bought a second-hand Never-heard-of-them printer from a friend/auction/car boot sale, can I use it with my ST?

ST: Any printer with a parallel interface, also known as Centronics, can be used with your ST to print text from the Desktop. Whether you can use it with your word processors or graphics software depends on whether it has an Epson or IBM Proprinter emulation built-in, all serious software has printer drivers for these machines. Always make sure you get a manual with a second-hand printer!

3. No changes
With the advent of the new Atari Falcon, will ST FORMAT be changing its name to Falcon FORMAT or ST6 FORMAT?

ST: We have no plans to change the name of the magazine in the foreseeable future. We are going to continue to review Falcon hardware and software as and when it is released as well as

bring you news on Atari's new machines - check out this month's news section starting on page 7.

4. CCGA monitors
I have been given a CCGA monitor from an old PC, can I connect it to my ST?

ST: No, your ST provides analogue RGB signals while PC CCGA monitors use TTL (digital) signals for its input. Also, PC monitors do not have any speakers so your machine will be silent.

5. Amiga's RAM
I am unable to upgrade my STE to 2Mbytes of RAM, can I use the two 256K SIMMs already in my STE with my new 1MByte SIMMs to give me 2.5Mbytes?

ST: No, the only possible RAM configurations for the STE are 0.5MByte (2x256K), 1MByte (2x256K), 2MByte (2x1MByte) and 4MByte (4x1MByte).

6. Amiga emulator
Is there an Amiga emulator for the ST that can enable me to play Amiga games?

ST: No, the only emulators available for the ST are IBM PC and Macintosh emulators. The Amiga has too many custom chips to make an emulator economical. It would probably be cheaper to actually buy an Amiga.

7. Clink me some tunes
Where can I get a SCART and audio lead to connect my ST to my TV, my TV monitor and my hi-fi system?

ST: An excellent source for everything you can possibly require is Medcom. All you have to do is tell them what type of ST you have along with the make and

model of your TV or monitor and they can provide the correct lead. If they don't have a ready-made lead in stock then they can make it for you. Contact Medcom on 031 521 2202.

8. Other emulators
My friend told that I can play PC/Amiga/Spectrum games on my STE. Is he right?

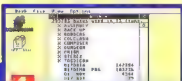
ST: Your friend is wrong. All computers can only play games designed specifically for them, if one machine could play all formats then there would be no need for separate shelves in the game store, would there?
There are emulators for some machines (PC and Mac), but generally these are not powerful enough to let you play games with them.

9. Odd mouse pointer
I am having problems with my mouse pointer, the mouse goes up when it should go down. Where can I get a replacement mouse?

ST: It's not your mouse at all, it's the dreaded Ghost virus. Get yourself a virus killer like the UVK (Ultimate Virus Killer) from Douglas Communications (0 667 456 5527). It only costs £9.99 and can safeguard your software. **ST WARNING:** Never use a virus killer on a game disk, the virus killer wipes your game. Keep it on a floppy disk because it looks like a virus.

10. Simple file copying
How do I copy files from the ST FORMAT Cover Disk to a blank disk? I have tried several times but I cannot do it. I don't have an external disk drive.

ST: Follow the four steps, right to copy your ST FORMAT files to a blank disk.



1 Format a new disk and mark it Blank B. Now put the Cover Disk in the drive and ensure that it's write-protected, the Cover Disk is Mark A. Open the Drive A window by clicking in the floppy disk A icon.



2 Open the folder you wish to copy files from by double-clicking on it. Press the double-left arrow, and, keeping it pressed, single-click on each of the files until they are all highlighted. Now release the double-left arrow.



3 Click on any of the highlighted files, and, keeping the mouse button pressed, move the pointer until it is over the floppy disk B icon. Click the disk icon (this should not be the case if you have a hard disk).



4 An alert box appears telling you that you are moving files to drive B, click on OK. Drive A is now set to be your disk. It into drive A, do what you want OK. Follow the instructions until all the files have been copied.



ASSEMBLY POINTERS

Get your assembly program back on the track this month with Tony Wragstaff

Line-A!

A few problems from *John Marchant* of *Real*, who's transferring some ST/OS programs into assembly.

Could you tell me how to plot a plane using the *BASE* line-A routine. I've had some success using the predefined co-ordinates *dc.v 160,100* but can't figure out how to use variable co-ordinates. I'd also like to know if there is a similar VDI command.

stf: In a high level language like ST/OS, variables are assigned names quite easily, unlike, for instance, in assembly, they aren't. A similar command, so variables need to be placed directly into a

memory address. This address is then passed to the line-A in the *base* variable. After activating the line-A with:

```
dc.v $a000
```

you move the address of the co-ordinates and colour register into place and finally:

```
move.l $00000000,d1(d0)
```

```
data
```

```
colorset dc.v 0
```

```
color
```

```
dy dc.v 0
```

To change the co-ordinates, use *move.v* to place the new *x* value into *xy0*, and the new *y* value into *xy1*, before calling *putpixel*. And then:

```
move.v $100,xy0
```

```
move.v $50,xy1
```

stf: We have passed your details onto Compo Software and they are sending the TOS 2.06 manual and the upgrade disk to you.

Data may be damaged



I'm having trouble with my second-hand hard drive and my 4MByte STE. I occasionally get the message "data on drive C may be damaged" when saving a file. I have to re-boot the system losing the file I tried to save. Is it my hard drive or my DMA chip causing the problem?

B Adams, Leeds

stf: It certainly sounds as if it is the DMA chip causing the problem, contact Atari customer services on 0753 533344 and they can arrange

your *spapr*

The corresponding VDI command goes by the name of *v_sprinkle*, opcode 7. This is a little more versatile than the line-A. It can plot more than one pixel by passing the number of pixels in the *vdpr* register. It also the coordinates to specify the *dx* can vary, unlike is used to be the case.

Spritzly know

I have some animated spritz frames in *Diagram* format of a chain running, and I would like to know how to move them around the screen. Is there an art package that does this kind of thing?

Kenneth Gwynne, St. Kevin

stf: Any art package can be used to create spritz, although you need to create

a mask for them. Is your art package can do this for you, save a note of the *MASKER* file on the month's Cover Disk which creates a mask file for a megas picture.

If the mask itself is used to cut a hole into the background display, the spritz itself can then be dropped into this hole, removing the spritz's border which would otherwise be seen. Details on using spritz can be found in the month's assembly tutorial on page 97.

Passing

Last month we showed you how to create local variables in your assembly programs using the *link* instruction. The same instruction can be used to collect parameters passed to assembly routines. This is extremely useful if you are writing in a higher level language but want to include an assembly routine as the two

hand bare 40MByte SCSI hard drive for around £75

The kit required to connect a SCSI hard drive to your ST consists of a case (£35), a power supply (£35), a SCSI host adaptor (£59), SCSI and DMA cables (£6 each). All of these items are available from Castelnor Technologies on 081 3651151.

T Board disk



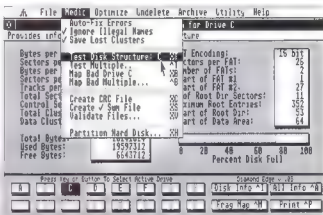
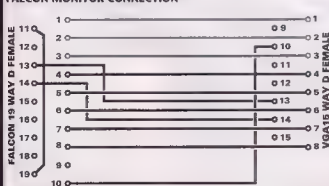
I took advantage of your Soup Up Campaign by upgrading my STPM to TOS 2.06 using a T Board. In the README file on the disk supplied with the upgrade it states that I will receive another disk and a manual, to this day I have not received anything.

Sean Huxley, Stockport



Due to one of these errors that occur occasionally, the Falcon to VGA monitor connections we printed in ST 46 were slightly incorrect. These are the correct connections

FALCON MONITOR CONNECTION



Diamond Edge is an excellent hard drive maintenance utility. Keep your data in pristine condition by performing regular medical checkups on your drive.

for your machine to have a replacement DMA chip fitted it is always a good idea to have a hard drive maintenance program like *Diamond Edge* or *ICD Cleanup ST* available to check your hard drive partitions. *Diamond Edge* is available from Hisoft (0525 718181) for £49.95 and *ICD Cleanup ST* is available for £29.95 from System Solutions (0753 832212).

The best thing you can do is get your ST looked at by a company that specialises in ST repairs. *Loadbroke Computing* are nearby and they offer an excellent repair service with a minimum charge of £35.

Cracking up



The main circuit board of my STE has been cracked directly below the keyboard, this means I cannot use my machine. How much would a replacement circuit board cost and where would I get it from?

James King, Gwynedd

It's electric



I foolishly touched my MMU and Video Shifter chips when I was in the middle of upgrading the memory of my STPM. Now my ST doesn't work because I was carrying a static charge when I touched the chips. What is the cheapest and best way to get my machine working again?

K Eaton, Liverpool

stf: There is no such thing as a cheap repair! All repairs are subject to charges for parts, time and labour

stf: You need to write to Atari UK giving them the exact details of your problem and they will provide you with a returns number so you can send your ST to them to be examined. After that they will contact you and quote a price for what needs to be repaired. Write to Customer Services, Atari UK, Atari House, Railway Terrace, Slough SL2 8ZD.



can be linked or complete time using or relative links).

Notice you're linked on address register, as for example, the local variables can then be accessed using a negative offset from A6, as we showed you last month.

NOT only local routines are accessed from A6, but we can also grab any parameters passed to the routine from A6 as well.

To see how this is done, we need to paint a job, or now parameters are passed to a routine. A6 varies between compilers - C and Pascal generally pass them in opposite order to each other, to check with your manual first. The parameters themselves, or their addresses, are first pushed onto the stack using moveq register, A6, #0. The routine is then called with a jmp which pushes the return address onto the stack. Finally, the link instruction

can produce the old value of A6 using the stack. With all these pointers, as now points to an offset, might bytes from the parameters.

So, both local and parameters can be accessed using A6, using a positive offset plus eight for parameters, and a negative offset for locals.

Once your routine has finished, you generally want your register and perform an exit. Some languages now even require that you clean up the parameters before returning, so you need to store the return address, clean up the stack, and jump to the return address.

```

Link A6, 0
Moveq #0, A6
Jmp 0

```

Again, check with your manual to see if this is necessary.

Width does matter

I have been using the K-Spread 2 spreadsheet on ST FORMAT Cover Disk 36 and I find it

very good except for one small problem, I cannot adjust the width of the columns. How is it done?

Steve Fahy, Southampton

STF: The answer to this problem is actually quite simple. Each pair of columns has a vertical dotted line separating them. To widen column A click and hold the mouse pointer over the line between columns A and B and drag the line to the right, release the mouse button when column A is wide enough. This operation must take place at the top of the spreadsheet between the column markers, you cannot widen columns from within the spreadsheet grid itself.

Video star

Why can't I get a clear image when I connect my STFM to my video recorder using RF (aer-

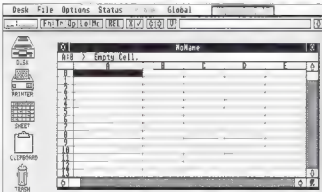
ial) leads? All I get is a snow filled image, even though I have tuned the video correctly.

Cath Jones, Essex

STF: The problem that the ST and the video both output RF signals on UHF channel 36 and the signals interfere with each other. Most videos have an output frequency control on the back panel which enables you to adjust the output channel between 32 and 40. Remember to adjust your TV to receive the new video channel.

Alternatively, you can connect your ST to the SCART or phono inputs of your video recorder, this gives much better output quality for video recording. Meedmore (051 521 2202) supply a standard ST to composite video lead suitable for phono inputs (part no K2054, £8) and an ST to TV SCART for videos with a SCART socket (part no K2583, £15).

● If you have a problem you would like the ST Answers team to tackle then send it in to ST Answers, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



■ That's the way to do it, grab the line between columns and drag it until it's the size you want. It's simple once you know how.



MUSIC AND MIDI

Here's Andy Curtis to help you with your MIDI niggles

Linking ST

Could you tell me if any speech synthesizers available in the Public Domain or a commercial program, is need it to be able to output from my hi-fi, I have an ST.

David Fairweather, Barnsley

STF: ST Speech is a little program that speaks whatever you type into it. You can get it from most PD libraries - check out our directory on page 95. It works on your ST's own outputs that sound from the phone socket or line-back of your computer. The speech quality is not wonderful, but it is really understandable.

There is also a speech synthesizer called UHF Speech which has speech data patches, you would need to buy words by adding the words together. It's on disk #4924 from Commodore International (0182 535630) and costs a mere £1.75.

ST Raving

I have recently purchased a S&B STB and am quite interested in the music side of the computer. I have no experience in such and want to know what equipment I would need to create rave music on a PC.

Declan O'Meara, Co. Tipperary

STF: In order to create high quality commercial drive music, your ST can act as the heart - or a much bigger music setup. However, if you want to start off without spending too much money you can buy a soundtracker package like Audio Software (£6.99) from Direct Software (0908 179354). This excellent piece of software enables you to sequence samples on four channels and create great music. Samples are readily available from most PD libraries.

Plugging in

I have a S&B STFM and a musical keyboard which I have just bought recently. I want to connect the keyboard to my ST. The keyboard has both MIDI input and output sockets. My problem is that I do not know how to connect them and what software to use.

Could you kindly send me a clear wiring diagram of how to connect my system including what leads to buy? Also, could you recommend a particular sequencing program which doesn't cost too much?

Stefan Sahlin, Malta

STF: There really is no need for a diagram here. Simply buy two standard MIDI cables from your local music store. These should cost around £3 each. Plug the first cable into your ST's end of the musical outlet. Plug the other end of the cable into your synth's MIDI in. The second

cable plugs into the remaining MIDI socket on your ST. Plug the other end of this cable into your synth at the socket marked OUT.

On a sequencing program we suggest, Gates Sequencer One Plus, it's only £39.95 from our special offers section, turn to page 98 for details. The program comes with a full manual and is significantly better than the PD offerings. With these small purchases, you are set to have endless fun with your ST. Back and enjoy!



■ Sequencer One Plus gives you the capability to mix MIDI sequences with digital audio samples - the best of both worlds

Minimum Memory

If I buy a second-hand 520 STB to use for music production, what do I have to upgrade it to?

Andrew Davies, Chyde

STF: Most libraries run quite happily with 768K of RAM, this is really the minimum you should be looking at for serious use.

Budget limitations

I am on a low budget of around £100, what would be the best method of producing backing tapes of samples that I could take into the studio to add vocals and guitars?

Andy Hearn, Bristol

STF: The best way of making backing tapes is to get a keyboard with some realistic sounds, including plenty of drum samples. Use a good software sequencer like Breakthru (£69.95 from ST FORMAT special offers on page 98) and away you go! You can produce some great sounding music to which you can add live sounds later on.

Drive confession

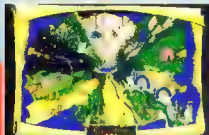
If I get an AdSCSI interface for direct to disk recording, can I use my floppy drive?

Andrew Wright, Macclesfield

STF: In a word, no. Direct to disk recording requires the access times and data transfer rates of a good hard drive. Floppy drives are just too slow. Some direct to disk recording systems require 10MB/sec disk speed - or minutes of recording time, so the 720K capacity of a floppy drive would not be sufficient to record more than six or seven seconds of music anyway.



SCREENPLAY



castle islands of Neighbours' 12 tribes and 120 levels of pure, unadorned gaming bliss. Read your wish for more? Turn to page 66.



We've got some fabulous games for you this month, including cover star **Lemmings 2**

■ Add blood, guts, sleep and drinks ST games, complete with a list of the best, as for an honest opinion of Lemmings 2, let's go now.

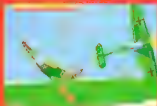
LEMMINGS 2

Forget *Worms* fighter 2. This is what you should be playing on your ST. There's more fun and more in *Lemmings 2* than you could ever want.



LEMMING 2

idea. If you like STs, you're going to love this. Turn to page 70 now.



REACH FOR THE SKIES

War on the north before the battle in *Warrior's Battle of Britain* fight again. Make the days of the daylight see by air-bombing page 71.

Hints, tips and cheats

Pages and pages of help for you to *Gamebusters* starting on page 84, followed by the incredibly knowledgeable *Captain Blunder* on page 88.

Your essential guide to *Captain Blunder's* page.



Availability

You've heard how amazingly brilliant this game is, but you can't find it anywhere.



Cheat

Everybody knows it's the taking part in a game that's the most important part... or is it?



General

So you've got a gaming problem, but it's nothing to do with any of the other four categories.



Techie

Your ST's giving you grief when you play games.



Tip

You don't want to cheat, but you'd like a hand.

Gamebusters

More hints, tips and cheats for those brain-frazzlingly tricky ST games.

■ A complete solution to Sensible Software's totally barmy *Wizkid*.

■ Some handy tips for *FORMAT* Gold winning god game *Civilization*.

■ Every *Dynas* level code you're ever going to need. Probably.

■ A comprehensive cheat for classic space trader *Elite*.

■ And heaps of pokes, cheats and tips for all your favourite games.

WIN A '405 FIELD RADIO

Win a game of the month... Empire competition.

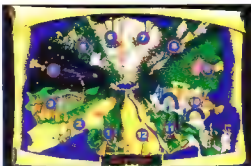


STF REVIEW POLICY - It is ST FORMAT policy to only review completely finished games - that is, games you could actually buy in the shops, never incomplete or demo versions. We won't be rushed into reviewing unfinished games for that. www.stformat.co.uk

We assume all games run on 520 STfms unless otherwise stated.



■ Select the world you want to play in from the map screen here. You are then presented with the worlds that you can see dotted **pages** - identify them by their number here.



Keep your lemmings under control!

Select everything easily - just point and click.

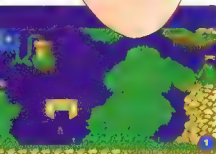
- 1 Name of the type of lemming selected.
- 2 Number of times remaining that you can use the skill selected.
- 3 Selection of lemming skills you can choose from on this level.

- 4 Fan to blow lemmings that are able to move assisted by the wind.
- 5 Spend up time so you can hurry all your lemmings home if you have created a safe path for them.
- 6 Nuke the lemmings when you've put them into an impossible position.
- 7 Pause the game to look around the world.

LEMMINGS 2

THE TRIBES

After months of waiting, *Lemmings 2* is finally here. Paula Richards tries to rescue the green-haired creatures...



■ **OUTDOOR WORLD:** Lots of healthy fresh air but also an impossible fourth level to contend with.

We've been promising it for months and at last, it's finally here - *Lemmings 2*, the game the cynics said couldn't possibly be bettered. How could Psygnosis improve on the immediate playability of the original *Lemmings*, the great humour, the enjoyable graphics and pixel-perfect animation? You might think you need convincing, but as soon as you load up the game and realise that every step towards completing a level counts towards a final goal and that you can proceed towards that goal from 12 different worlds employing over 50 different skills of lemming the possibilities look very enticing. And once you've been enticed you're going to find it very difficult to leave the land of the Lemming.



■ **BEACH WORLD:** Go on! Surf! California and all that - impress the chicks with your bronzed body and er, green hair...

Small, stupid, but very cute Lemmings, as we know, are very stupid small rodents who live in Norway and rush headlong into the sea and drown when they're supposed to be migrating. So it wouldn't be surprising if you didn't have much sympathy for these creatures, but the lemmings who have had to learn to survive in the differing landscapes of Lemming

Island have developed so many complex skills that it's hard not to feel a degree of compassion for them. The main problem they seem to have though is that they simply haven't learned how to work in teams and help each other out - and that's up to you.

The basic aim of each of the 120 levels is the same as in the original *Lemmings*: they drop

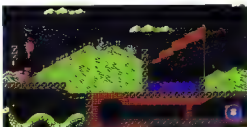
IDENTIFY YOUR LEMMING

<p>Anchor - One survival skill. Anchors lemmings to the ground.</p>	<p>Bombus - Fires a shell in the direction of the lemming.</p>	<p>Clamber - Climbs up walls.</p>
<p>Blow - Blows lemmings in the direction of the wind.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>
<p>Build - Builds a wall in the direction of the lemming.</p>	<p>Booby - Fires a shell in the direction of the lemming.</p>	<p>Crash - Crashes into the lemming.</p>





THE HIGHLANDS
VIBRANT!
plenty of
Scottish
humour
here -
tartan,
the
bagpipes
and all
bagpipe tunes.



affect your fellow lemmings it can be a waste of resources. The quality of your monitor also helps here - if yours is a bit dodgy they seem to merge together even more freely. Considering the size of the lemmings and their incredible detail, it's amazing that things don't get blurred together more frequently.

Enter the world of...

Each of the levels is a different size and shape; some are only a single screen, some are several screens long horizontally, some several screens vertically and others are huge in all directions. The vertically-scrolling levels are hardest with huge drops you don't know whether lemmings are going to survive until you've tried their

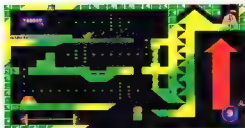
resilience. Size doesn't necessarily determine how easy or difficult a level is, either - some of the single screens are the worst. It's best to work out what sort of area you're playing in when you start the level

**"It's massive,
brain taxing, funny...
and brilliant"**

and where the exit is. Don't be fooled when you come across a level and get loads of each skill - although sometimes they can indicate you're going to need them all, they're frequently red herrings.

Varied

Lemmings 2 is a huge game with so many different levels, varied worlds with very strong identities and heaps of humour in the personality-crammed lemmings that it's difficult to find fault with it. You're certainly never going to get bored with it - there are so many bits and pieces and ways of doing things that you can keep coming back to



CIRCUS WORLD:
Tricky one, this.
Watch out for
that propeller
thing on the top
bit of the plat-
form - it has this
tendency to
shoot your
lemmings out can-
non-ball like.

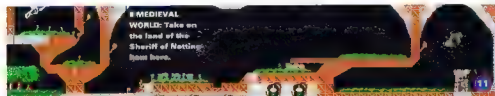
beach and outdoor worlds contrast with the dark and damp caves and the Egyptian and Classic levels add a bit of culture. The atmosphere of all the levels is enhanced by themed tunes, relevant to the world you're in. It's massive, brain-taxing, funny and visually and sonically brilliant. Even if you only buy one single game this year, this has to be it. You won't regret it. **stf**



EGYPTIAN WORLD: Lemmings come out of three trapdoors in this land of pyramids and the Sphinx.



CLASSIC WORLD: Lots of pretty quiet stone in this world - just as well you get some tough lemmings.



MEDIEVAL WORLD: Take on the land of the Sheriff of Nottingham here.

Lemmings 2

£29.99 Psygnosis
+ 0517 706 5750
1Mbyte RAM only
Tilack

Highs:

- Far superior to the original
- Incredibly detailed with 128 levels
- Full of humour, great to look at and listen to

Lows:

- Control's a bit difficult when there are lots of lemmings grouped together.

96

EVEN MORE LEMMINGS TO IDENTIFY



AMAZING TEA EGG! THIS GREAT THING COULD BE YOURS FOR ONLY **£1.95!**

High quality metal alloy handle. Finely polished. This will facilitate easy retrieval of your tea. However, it isn't designed to keep you in touch with the fun exciting videogame world.

Finely tooled, stainless steel chain. Available in gold, pig-iron and copper-look. Even the heaviest tea portions will fail to break this high quality linkage. But it can't tell you about the new Mario movie, the very latest games in the arcade, and it has never interviewed Bob Hoskins.

Easy tea insertion/removal clip. Computer designed to allow rapid tea removal and insertion for your enhanced drinking pleasure. But be aware - utilising this feature will not tell you how to complete Battletoids, Superfrog, Tiny Toons and Jungle Strike.

Fineest mesh. The close weave ensures only the flavour fills your cup. Designed by Swedes, the mesh retains even the smallest tea particles within. With no rust guaranteed. But the mesh doesn't preview ALL the biggest videogames.

Manufacturers note: this product does not come with a Comot Discount Card or GamesMaster window sticker either.
We regret no interest is for 1 week only.



Get Only £1.95! And for this piffling amount you get:
Mega CD Dracula reviewed - we tell it like it is!
The very best in tips.
Mario the movie. Shots from the film AND an interview with the massive Bob Hoskins.
Everything, for every machine, gets the full, fair, no punches pulled, refulding treatment.
Previews for EVERY machine!
TWO fresh! A Comot Discount Card that'll save you money. And a GamesMaster window sticker that'll, well, stick to glass and look neat!

For the same price as a Tea Egg you could buy GamesMaster!
It's packed with reviews, tips, previews and jolly laughs for all the family. And it makes great coffee.

■ Kendoria's hard won peace comes under threat again in *Ishar 2: Messengers of Doom*

ISHAR 2

MESSENGERS OF DOOM



One of the most eagerly awaited adventure games of the year arrives on your ST.

Rob Mead puts on his leather Jerkin and takes a look

Ishar: Legend of the Fortress was one of the gaming highlights of last year. French programmers Silmarils conjured up a deeply atmospheric role-playing game which plotted the trials and tribulations of five adventurers and their journey across a mythical land. This *FORMAT* Gold winning game also set the scene for an inevitable sequel – and here it is.

Ishar 2: Messengers of Doom finds the Isle of Kendoria enjoying a much deserved peace. The foreboding fortress of Ishar has been transformed into a leading cultural centre and spreads Kendoria's influence beyond its shores to the six other lands.

Things start to go terribly wrong, however, when an evil drug syndicate start foisting mind-altering pills on the unsuspecting population, bringing the lands to the brink of anarchy. As Zubaran – Ishar's ruler – it's your job to round up four like-minded adventurers and defeat the syndicate, bringing

peace and prosperity to your kingdom once more

The game drops you in the deep end as soon as you start – you witness a cowardly and brutal attack on a defenceless girl by a gang of thugs. You're powerless to help, so you head north to the nearest village to recruit members of your team and buy much needed equipment. Ivan's Island is an eerie swamp-infested land filled with vicious lizard men and killer insects. You're given a host of cryptic clues to unravel, once you do, you can escape from the land and set sail for Zach's Island, a bustling cityscape filled with houses, taverns and shops. Here you can build up your team's combat experience and discover the many clues, maps and artefacts which are going to help you on your quest.

Ishar 2 is a massive adventure which claims to be three times larger than its predecessor. In addition to the swamp and city worlds of Ivan and Zach there's a myr-

lad of dungeons and villages to explore, as well as mountains and a Tree City to traverse. Each landscape is filled with its own peculiar inhabitants – zombies, skeletons, giants and pterodactyls, for example – and treacherous pitfalls to overcome. This is one serious game-playing experience.

Character psychology

The key to any role-playing adventure is your ability to mix and match different characters in your team. One of the main features of *Ishar 2* is the introduction of complex character psychology

■ You travel to each island by boat from local harbours – remember to buy a sick bag from the chemist's



Each person you recruit has their own distinct personality and attributes. When you choose your team you have to take racial tensions and personality conflicts into account since these affect a character's willingness to help another when in trouble – an elf may be unwilling to heal a wounded orc, for example. You can even spark off a series of murders within your team by assassinating a well-liked character.

As well as having different personality profiles, your characters also possess a wide variety of skills associated with them – there are warriors, thieves,

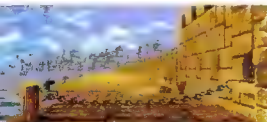
scholars and magicians who can play a part in the successful outcome of your quest. High level, experienced warriors are crucial in combat situations, for instance, while magicians are useful for creating powerful spells and potions.

Another new feature found in *Ishar 2* is its self-mapping facility. This means you no longer have to wander aimlessly around a landscape trying to find clues for your quest. Each island has its own map – accessed via the Action menu bar – which ensures you know exactly where your team is in relation to the total game area. The Action menu also enables you to give first aid to your characters, as well as recruit, dismiss or assassinate them

Intuitive adventuring

If you've never played an adventure game before, *Ishar 2* can be a daunting experience. The screen consists of a main game window featuring a 3D landscape, as well as a series of mouse-controlled menus which enable you to arrange your characters and access their individual inventories. After an hour's play, the control system becomes second nature and you're soon belting around each island, slashing baddies and piecing together the puzzling information presented to you.

Although *Ishar 2* is stylistically similar to its predecessor, Silmarils



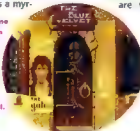
■ Zach's Island is a bustling city filled with taverns, shops and axe-wielding baddies.



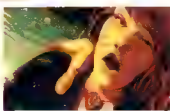
■ The swamp world of Ivan is home to these unsavoury lizard men.



■ You witness a horrifying assault on a defenceless girl on Ivan's Island. Does your risk going to her rescue?



■ A fire monster lies in wait at the entrance of the Castle. Cast a Fire Protection spell to defeat him.



■ Fatally wounded, the hapless victim offers you her pendant before she dies.

■ A friendly giant offers you the sharp end of his axe. Do you take up his kind offer of instant death, or run like the clappers?





■ This is Zuharan - your character - checking out his neighbours' new satellite dish



■ Taverns are notorious places for picking up local gossip and recruiting adventurers for your quest.

have managed to conjure up an entire new universe to immerse yourself in. Highly detailed, realistic graphics combine with atmospheric sound effects to produce a very involving game-playing experience. All the locations in the game - city, mountain or swamp - have a very different feel to them and you can't help but be enthralled by what's going on.

The only drawback is there's a lot of tedious slogging around the islands in the early stages of the game as your characters gather experience points and pick up the various clues lying around. There are also plenty of plot turns and twists as well as sub-adventures for you to get involved in so you don't feel bored for long.

Because *Ishar 2* is largely icon and menu-driven, using a keyboard or mouse is your best option - the joystick emulation is not recommended. Gameplay can be a little slow because of the complex 3D graphics and frequent disk accessing. This means gameplay can be a little jerky, although installing the game on a hard drive improves things considerably. One major improvement to the game is the Save Game option - you no longer have to squander your precious gold on saving the game and you can save as many times as you like. You can also import your characters from the first *Ishar* into your new adventure. This appears to have been

included at the expense of the quality of the high res option - the clarity of the mono image is not as good as it was in *Ishar 1*.

Verdict

Ishar 2 is a sprawling role-playing adventure which manages to build on the success of its *FORMAT* Gold winning predecessor. With eight islands for you to explore, *Ishar 2* is an absorbing and atmospheric challenge which is going to keep you at your ST for months. The only drawbacks are the screen refresh rate and constant disk accessing, making gameplay a little slow at times. All in all, this is an adventure which has to be experienced. **stf**

Ishar 2: The Legend of the Dragon

£29.99. 512mb RAM. Date: 07/12/88. 272. 1Mbyte of RAM required. Three disks. Hard drive installable. All resolutions.

- *Ishar 2* is a massive RPG, packed with atmosphere and playability.
- Getting around can be tedious and the game is a little slow.

92%

■ Your friendly innkeeper's manager's always keen to take money off you. You can get it back by launching a daring robbery.



■ There are a wide variety of shops in *Ishar 2* which enable you to buy food, clothing weapons and even pets.



■ Fall in your quest and you could spend the rest of your days pushing up the daisies.

Dungeons, dragons and icons

Ishar 2's main game screen looks a little bewildering at first, but it's a doable maze - here's *ST FORMAT's* indispensable guide to it.

1 STATUS BAR

Gives you location as well as the current stage.

2 3D GAME SCENE

This is what you see with your eyes.

3 CHARACTER PORTRAIT

This is what your characters look like. Pretty, eh?

4 CHARACTER STATUS

Gives each character's psychic and physical levels, experience and money held.

5 MAGICAL ABILITIES

Subtlers, magicians and druids can cast a variety of spells which are indicated here.

6 CHARACTER'S ITEMS HELD

Tells you what items each character is currently holding - magical weapons.

7 ACTION MENU

Enables you to recruit, dismiss or

assassinate characters in your team. The Red Cross is used for healing characters, while the flag icon enables you to access *Ishar 2's* mapping system.

8 DISK ACCESS

Enables you to move, load or start a new game. A fourth option enables you to import your characters from *Ishar 1*.

9 COMPASS

Tells you which direction you're currently facing.

10 FIGHT STRATEGY ICON

Enables you to position your characters in a variety of battle formations.

11 CHARACTER MOVEMENT PANEL

Click on one of the eight movement icons to move your team through the 3D landscape.

12 FIGHT PANEL

Each character's weapons are indicated here. Click on each in turn to attack.



Dressed up and no place to go

Ishar 2's characters each have their own inventory detailing their current possessions and status.

1 CHARACTER'S INVENTORY

Character's inventory shows their current possessions and status. It also shows their current level, experience, vitality, physical, psychic and team spirit.

2 CHARACTER'S STATUS

Character's status shows their current level, experience, vitality, physical, psychic and team spirit.

3 CHARACTER'S POSSESSIONS

Character's possessions show their current level, experience, vitality, physical, psychic and team spirit.

4 CHARACTER'S TEAM SPIRIT

Character's team spirit shows their current level, experience, vitality, physical, psychic and team spirit.

5 CHARACTER'S VITALITY

Character's vitality shows their current level, experience, vitality, physical, psychic and team spirit.

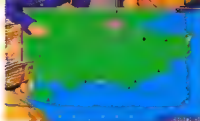
Summary of the Characters

Character	Level	Experience	Vitality	Physical	Psychic	Team Spirit
Zuharan	1	0	100	100	100	100
Warrior	1	0	100	100	100	100
Wizard	1	0	100	100	100	100
Druid	1	0	100	100	100	100
Thief	1	0	100	100	100	100
Paladin	1	0	100	100	100	100
Monk	1	0	100	100	100	100
Wizard	1	0	100	100	100	100
Druid	1	0	100	100	100	100
Thief	1	0	100	100	100	100
Paladin	1	0	100	100	100	100
Monk	1	0	100	100	100	100

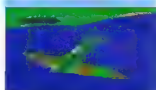


REACH FOR THE SKIES

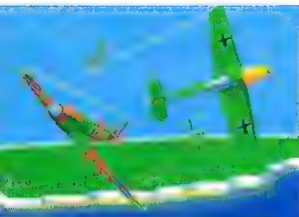
Practise those David Niven impressions – keep that upper lip stiff and get those kites airborne in this simulation of the Battle of Britain



■ "We have successfully located the squadron's tea urn. We strike at dawn, one good hit could swing the whole war in our favour." The German controller plots the next day's raids.



■ This is your kite – and what a beauty it is. You can get an external view at any time and take a good look at your plane.



■ None of that computer-assisted stuff with fancy head-up displays, radar and guided missiles here. It's all piston engines, sheepskin jackets and skill. Chocks away, you fellows.

■ The sort of chaps you'd want on your side in a scrap, ahem. You can practise without ruining your war career, go for it proper or try for the big one by playing the simulator as well as doing a bit of flying.



War is undoubtedly a thoroughly unpleasant thing, but swooping around machine gunning things in a simulation of aerial combat is great fun – strange but true.

Reach for the Skies puts you right in the thick of it. It's a comprehensive re-creation of the Battle of Britain, where the Luftwaffe tried to subdue the Royal Air Force before the invasion of Britain could begin. You can play the pilots or controllers of either side. The pilots get three lives to make it through the war and the controllers have to maintain or destroy the British fighter force, depending on which side they're on.

It's a game you need to approach in a determined manner, there's a respectably fat manual to read and a card showing the mass

of keyboard controls you need to master. You need at least 1MB of memory to run Reach for the Skies and having a hard drive or two disk drives helps a lot.

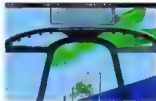
Scramble scramble

After having decided which side you're on, it's time to give yourself a name and pick which phase of the battle you want to start in. The later you start, the higher your rank and the more realistic the game. You are briefed on a mission and off you go swooshing about, hunting down the enemy and blasting away while you try to stay out of the drink. You can opt to miss out the take off and landings and stick to the punch-ups which is a blessing if you're not terribly patient.

Although there are lots of controls to remember, flying about



■ Going in for the kill, your Spit coming behind a group of Bf 109s. There are options to reduce your chances of success with things like realistic flight and limited ammunition, bah!



■ This is what you should be aiming for – a Bf 109 dead in your sights. Getting into a good firing position isn't easy, you've only a second or two to get a good shot in.



■ The chaps are desperately reading copies of Eagle comics in a frantic effort to pick up some useful hints on strategy, battle tactics and suitable insults for foreigners.

Ginger's top ten tips for survival

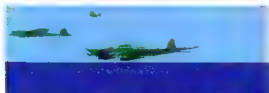
Listen, you sprags, here's some jolly old tactic stuff you fellows might find useful. It's tough out there and we don't want you pranking your kites on the first day, do we, what?

1 Keep the sun behind you when you attack, it gives you the added advantage of increasing the surprise when you hit the enemy.

2 Don't look the instructions too much, keep your eyes on the horizon scanning for bandits.

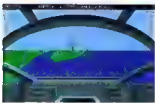
3 Don't fly straight and level unless you're damn sure there are no bandits about or you'll end up a sitting duck.

4 Take it easy with the controls, it's all too simple to spend all your time over-compensating for your last manoeuvre.



is easier than you'd expect. You control your kite with either keyboard, joystick or mouse and there isn't masses of technology to get bogged down in. Apart from firing the guns and adjusting the throttle there's almost nothing else to do when you're airborne other than concentrate on flying. The flight envelope and performances of the planes are supposedly realistic. If you start at the beginning of the battle the balance is swung in your favour. As a British pilot you get Hurricanes and Spitfires, while the Germans get to fly Bf 109 and Bf110 fighters, Me111, D017 and Ju88 bombers and the infamous Stuka dive bomber.

Apart from looking straight ahead, there are seven other views from your fighter cockpit. You need to keep switching to these to



■ In the big German bombers the tricky stuff of flying and bombing is all done automatically. You are left to man the machine guns and fend off the swarms of fighters.



■ You have plenty of different external views which you need to keep an eye on - don't panic, these crates are your wingmen.

Remember your fellow fighters, you can protect each other's blind spots.

Take your time getting into a good attacking position, try and swing around and attack from behind rather than going straight in headfirst.

When your guns are in range so are theirs, keep the time you spend close to the bombers at a minimum.

It's very easy
to smooth
straight into a tar-
get, especially in a
head-on pass. Get
ready to pull out in
good time.

 Turn towards an attacker rather than away, he overshoots and you can try and get behind him.

When you're out-numbered, scarper – you can always come back later. Brave but dead pilots are completely and utterly useless.

LEARN THE BANTER

■ You can activate
a video at any time
and your flight is
saved to memory.
■ You need all the
bush you can
watch your
moments of glory
from any angle and



and try to get above the enemy. The dogfights can get huge too, with up to a dozen planes fighting for position.

Tally ho!

The job of controller sees you deciding which planes go where and attack what. You ponder over a map of south-east Britain directing the chaps before taking part in the battle yourself as any one of the pilots. The Luftwaffe controller needs to pick his targets and concentrate on getting the bombers through. The RAF controller needs to distribute his forces and get his boys past the defending fighters and in among the bombers.

At the end of each day the state of the British fighter force is calculated. If it falls below a half of the initial strength, the Luftwaffe wins. Targets for the Luftwaffe include radar installations, convoys that are bringing supplies and aircraft factories and well as the airfields themselves.

The 3D vector graphics are good, the ground detail is particularly stunning. The sound effects and the music are a step above the usual flight sim. There's even snatches of digitised speech which really adds to the atmosphere. The general feel of the game is excellent and the amount of background detail and realism is impressive.

Verdict

There's no doubt that *Reach for the Skies* is a superb game. It's aiming for realism and a lot of work has obviously gone into trying to achieve this effect. It can occasion-

ally crash when running from a hard drive which is annoying and combat can get a trifle tedious as you manoeuvre about for the best position and spend more time firing to the targets than in combat with them. Sometimes you also wish the planes didn't fly quite so realistically – especially when you overshoot an easy target. However, with practice you soon feel involved in the dogfights and learn to play as part of a squadron rather than a lone pilot determined to engage every enemy plane in the sky single-handedly. With the option to play both sides and the controller it should keep you going for a while. Being a front line pilot in one of the most vital aerial wars ever fought is no job for the faint hearted, you need a stiff upper lip and plenty of hot mugs of tea but it's a whizzo wheeze, pip, pip.

CHRIS LLOYD

Reach for the stars

\$30.99 Virgin
0844 9602255
1Mbyte RAM required
Hard drive installable

lags of atmospheric
giving a
available
rather, is historically
realistic

COOL WORLD

Kim Basinger, eh? You can now get her on your ST thanks to Ocean's latest release. Rob Mead sighs pathetically

If you think cartoon land is full of lovable, fluffy bunnies being terrorized by dozy game hunters, think again. The doodles in *Cool World* have got evil on the brain and the destruction of human civilization in their hearts.

It all started when comic book creator Jack Dweeb inadvertently created a parallel universe between the cartoon world and the real world. His doodles are now upsetting the cosmic balance by crossing over into the real world and stealing objects to take back. You play a cop called Harris who has to stop the doodles' destructive behaviour before it's too late.

Based on the film flop of the same name, *Cool World* is a platformer which takes the tension between reality and fantasy as its theme. You have to guide Harris around four levels of cartoon mayhem, traversing the divide between the real world and the cool world, where the doodles live.

The four levels are hidden behind 16 doors controlled by officious doodles who you have to bribe so you can gain access - money is gained by zapping the many doodles which wander harmlessly around the streets. The doors are spread over different streets and access to each section is reached in a random, illogical order. This has you wandering all over the place, although a map screen eases things considerably.

Once you enter a level you're confronted with swarms of manic



■ Your faithful cartoon sidekick sends a warning message about the stone gargoyles on Level Two

doodles - anything from stone gargoyles to mutant babies - who zip back and forth between the cool world and the real world. Luckily you're armed with a magic pen which enables you to shoot and absorb the doodles before they cause too much damage. Once zapped, doodles release their stolen objects or bonuses for you to collect. Erm, that really is all, folks.

Sad to say, but *Cool World* is a major downer. Just like the film, it fails to live up to the hype - your hopes are unrealistically raised by the glam opening sequence but it's just one long anti-climax after that. The street sequences, for example, are furnished in glorious 2D with you guiding Harris across a horizontally-scrolling backdrop. Sure, the sprites are well-animated,

■ Cool World creator Jack is the first person to fall victim to the doodles when they try to loot his house

but Harris isn't particularly easy to control and the whole thing is laughable, not to mention tedious. It's frustrating to have to wander about from door to door when all you want to do is just skip from level to level.

Unfortunately, things don't get any better on the platformed

"Cool World is a major downer. Just like the film, it fails to live up to the hype"

sections either. You spend all your time switching between cool world and real world trying to stop the doodles from gaining the upper hand, but even this soon gets monotonous and you never really feel there's any point to what you're doing. To make matters worse, the joystick controls aren't particularly responsive and Harris frequently fails to leap to the

■ The delectable Moll sparks off all kinds of trouble when she tries to become human in *Cool World*.



desired location. Graphically, the game features some reasonably colourful backdrops and well-animated sprites, but they in no way compensate for the tedious gameplay.

The chip-based sound effects consist entirely of phut-phut noises as you fire the pen and the music sounds like the psychotic lift trash you love to hate.

Verdict

Cool World is a disappointment, yet another below average platform game to add to the piles already available for your ST. Slick scrolling and well-animated sprites can't disguise the fact that this game gets very dull, very quickly. Sadly, the Intro sequence is the most enjoyable part of the game. **stf**



SORT OUT THE REAL WORLD FROM THE CARTOON WORLD...



Remember, Harris can't go through the door until he's bribed the door doodles.



You can shoot the doodles but you have to be careful of the various objects they drop when they're killed.

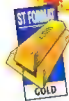


The game's sound effects are a bit of a let-down, but the Intro is their rightful place.



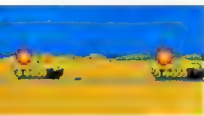
WAR IN THE GULF

Saddam's up to his old tricks in Kuwait again and only you can stop him. Stormin' Rob Mead takes him on...



The Gulf War was arguably one of the world's first "surgical" conflicts. Allied forces knocked out entire sections of Saddam Hussein's war machine without incurring massive civilian casualties.

Now you can do exactly the same in Empire's latest war sim.



■ A squadron of Iraqi T-72s home into view, their 125mm cannons blazing in *War in the Gulf*

Based on the same game engine as *Pacific Islands* and *Team Yankee*, *War in the Gulf* takes you to 1995 when once again, Saddam threatens Kuwait's sovereignty. Members of his elite Republican Guard have already seized the strategically important islands of Failaka and Bubiyan as well as a number of oilfields in the north. You play a member of Team Kuwait, a 1,000 strong force of US troops assigned to the Kuwaiti military. As your paymaster, the Sultan of Kuwait has given you strict instructions for your team to repel the Iraqi invaders while causing as little "collateral damage" as possible.

If you've never played *Pacific Islands* or *Team Yankee*, it's a good idea to start off with the Training mission where you guide four units



■ Use your thermal imaging camera to track down camouflaged opposition

of four tanks each around an assault course and meet the set objectives. Only when you feel you can accomplish this successfully should you attempt the real missions against the Iraqi forces.

Why? Because in a battle situation events take place rapidly and you're usually heavily outnumbered. There's nothing worse than

fumbling over the controls when you've got a gang of Iraqi T-72s blowing the crap out of you.

Your primary objectives are to seize control of Failaka and Bubiyan, before taking on the hub of the Republican Guard on the Kuwaiti mainland - this is why you really need training as things get a little hot. There are 15 different tank battles over 400 square miles of terrain for you to complete before victory is yours.



■ One's going to let you loose on the battlefield until you're capable of telling a good guy from an Iraqi.

STORMIN' NORMAN'S MIDDLE EAST ADVENTURE



The AA's guide to Desert Storm

Keep overall control of the land battle with War in the Gulf's mapping system

1 Iraqi positions

Iraqi units do not appear on the map screen at the start of a mission, but they suddenly emerge at the start of their positions.

2 US positions

Team Yankee's forces are indicated by US flags on the main map screen.

3 Waypoints

Use the "W" key to set a waypoint for each unit.

4 ETA

Tells you what time a particular unit is expected to arrive at a set waypoint.

5 Map manipulation

The four directional arrows enable you to scroll the map around, while clicking on the blue square centres the map on the currently selected unit.

6 Zoom In

Show you a closer-up picture of your units, clicking on this icon.

7 Map Width

Tells you the amount of screen map display (from 100 to fractions of a mile).

8 Zoom Out

Click this icon to return to the full map.

9 Speed Stop

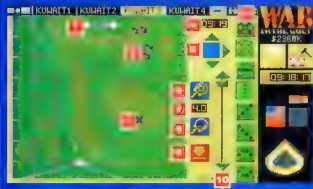
Stops your Team Yankee units to a complete halt.

10 Speed Limit

Click on this icon when arrows to increase or decrease the speed of the currently selected unit.

11 Formation icons

Changes the movement of selected units to form one of the following (from top to bottom): Close formation, Wide formation, In-line formation, Column, Rotation right, Rotation left, Wedge and Tail.



Soft targets, hard decisions

At the start of each mission you're briefed with your main objectives which have to be achieved against a time limit. Fall just one of your goals, and you lose.

Control of your tanks is achieved by placing a single way-

point on each of your unit's map screens. Once they arrive, the tanks stop and you have to set the next waypoint. Timing is crucial here and you have to take the terrain into account - tanks move faster on purpose-built roads, but are vulnerable to attack, cross-country routes, on the other hand, are slower and getting your forces into position takes longer.

Once you've sussed out the map controls, you can access the 3D game screen which shows you the landscape in a bitmapped format. At any time you can view one or all of your units on the same screen by toggling the Quadrant/Expand icon. It's here you witness the full thrill of the battle from spectacular explosions to the scary sight of a whole legion of Iraqi tanks descending on your position. Each tank even has its own thermal imaging camera, so you can see the



Iraqi's through the smoke and tumult of battle.

"See that, that's an ITV, that is." "Why's it got a Sky satellite dish on the top of it then?"

Friendly fire

Despite a slightly exploitative feel, War in the Gulf is actually very good fun to play. Even if you're not a war sim addict, you soon find yourself deeply engrossed in what's going on. Keeping track of your four units is not easy - despite the novel Quadrant option - and you often find all four under attack at once.

You really do get the feeling of the heat of battle. The game can be a bit overwring at first and you can find yourself blundering blindly into situations without really planning how you're going to get out of them. You soon get the hang of things though, and you can achieve your initial mission objectives quite quickly, even if you do lapse into the occasional bout of US Army style friendly-fire by inadvertently attacking your own units.

Control of your forces is achieved entirely by a series of point-and-click icons and menus. You're unable to steer individual tanks but are responsible for collective targeting of the enemy objectives using a cursor gun-sight - this makes getting around dead simple and enables you to fully concentrate on knocking out the Iraqi tanks.

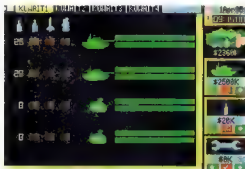
Graphically, War in the Gulf is identical to its two predecessors - the same 3D bitmapping ensures gameplay is fast and furious, even if not highly detailed. The different buildings are distinct enough for you to avoid destroying warehouse Kuwaiti treasures - for which you are seriously penalised, well pummeling crucial Iraqi communications centres.

The tanks are not so easily identified, although you can orientate yourself effortlessly using each unit's maps. The sound effects are pretty unspectacular, consisting mainly of chip-generated explosions and tank rumbles.

Verdict

This is Pacific Islands on sand. Empire have cashed in on the whole Gulf War thing and come up with a highly cynical, but effective war game. If you own Pacific Islands or Team Yankee already, there's nothing here that's really any different - you're just getting a different set of missions for your money.

This doesn't stop War in the Gulf being any less addictive or fun to play and if you're the kind of person who can't stand complicated war sims, then this is the game for you. **atf**



At the start of each mission you can buy more weapons or tanks from the armory.

War in the Gulf

\$29.99 Empire
01-343-7337
One disc

Humongous explosion and non-bling gameplay makes War in the Gulf the best fun since Cleopatra's asp.

You could find it too simplistic or you're a serious war game enthusiast.

92

Destroy the satellite and stop Iraqi ground forces from alerting their HQ to your presence.



WIN! WIN! WIN!

empire



WIN A '40S FIELD RADIO

This is your chance to participate in the thrills of war - just answer ten simple questions

How do you fancy owning a '40s field radio? Just imagine the fun you could have - doing the Jitterbug with Auntie Edna on the banks of the River Thames, smooching with your blushing bride to Glen Miller Tuning into Gary Davies. The possibilities are endless.

Empire Software and *ST FORMAT* are offering you the chance to win the Spirit of St Louis, a collector's edition field wireless featuring FM, LW and MW wavebands

in all their steam-powered glory. The Spirit of St Louis field radio comes encased in a black cabinet with brushed aluminium front, side-mounted carry handles as well as a front-mounted speaker and top mounted loop antenna.

Battery-powered for maximum portability, the set comes complete with volume, tone and fine tuning controls as well as blinking lights which could transform a gloomy evening into the radio equivalent of Blackpool illu-

minations. Five lucky runners-up could also get the chance to win a set of three excellent war games, including two *FORMAT* Gold winners - *Team Yankee*, *Pacific Islands*



1. *War in the Gulf* - computerised, humorous explosions and nail-biting gameplay.



2. *Pacific Islands* - a free game with great long-term playability



3. *Team Yankee* is sophisticated to ease you into war-like mayhem.

and *War in the Gulf*. So, fetch the bread and dripping from the pantry, stick your tin helmet and scribble the answers to the questions below on a saucy sessie postcard to: **Kippers and Custard Competition, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.** All entries should be received no later than Friday 13 August 1993.

Competition rules

1. All competition entries must be received by Friday 13 August 1993.
2. Employees, friends and relations of either Future Publishing or Empire Software are ineligible to enter.
3. Duplicate entries will be forced to watch repeats of *Through the Keyhole*.
4. The Goons weren't the same after Harry Secombe left.
5. The Editor's decision is final and no correspondence shall be entered into. Thank you and goodnight.

JUST ANSWER THESE WAR IN THE GULF RELATED QUESTIONS

1. What was the name of the Iraqi-launched missiles that landed in Israel?
2. In what year is *War in the Gulf* set?
3. What terrain do tanks move on fastest?
4. How big is the playing area in the game?
5. Which issue of *ST FORMAT* was *Pacific Islands* originally reviewed in?
6. What tactic can you use to make your tank much harder to detect?
7. Who was the Allied Supreme Commander in the real war in the Gulf?
8. What is the name of the head of the Kuwaiti royal family?
9. What piece of technology enables you to see through the smoke of battle?
10. What are the five weapon types that you can use in *War in the Gulf*?

Home Accounts 2 Competition Winners

pi 3746 We offered you the chance to win five copies of this excellent money-management program. The lucky winners are M Kempster of Cornwall, Roger Hannaford from Shropshire, Al Buchanan from Lincoln, Malcolm Gale from Kent and A Hewlett of Chester.

1. What does ASCII stand for?
2. American Standard Code for Information Interchange.
3. What is "probably the most powerful accounting tool on your ST?"
4. The spreadsheet.
5. What is Wayne Smithson working on at the moment?

at the moment?

A. The ST version of Lemmings 2.

Who are in Best System?

A. Derek Pince and Jon Tizzard.

Spell the sound a duck makes.

A. Quack.

What sort of machine does Paul Huza describe the ST as?

A. Bloody good machine.

Who were Donald Duck's nephews?

A. Huey, Louie and Dewey.

What's "undoubtedly the best small accounts program for the ST?"

A. Home Accounts 2.

What piece of furniture does a data base do the same job as?

A. Filing cabinet.

Which male character collects glasses in the Rover's Return?

A. Jack Dingleworth.

OPERATION STEALTH

A top secret Stealth Bomber has disappeared. Its dopey pilot left the keys in the ignition and now the plane's winging its way towards the South American republic of Santa Paragua.

Operation Stealth is a James Bond style graphic adventure filled with Cold War intrigue, exploding pens and scantily-clad women who fall madly in love with you - just like real life, eh?

You play top CIA agent John Glames who's sent off to Santa Paragua to retrieve the missing bomber. Unfortunately, the KGB has a similar plan and the game turns into a race against time, with those darn Russkies trying to foil your plans every step of the way.

Stealth was one of the first games to use a fully mouse-controlled point-and-click control system, and it shows. The gameplay isn't particularly intuitive and you can end up walking around in circles trying to get your character to perform a particular action. The menu system's a bit fiddly as well - sometimes clicking with the left mouse button on a menu works, other times it's the right mouse button which does the job. However, once you've got used to these shortcomings, there's plenty here to reward you. The game is filled with cryptic clues and puzzles as well as the odd unwelcome surprise - you're blamed for the murder in the park, for example. *Operation*

Stealth has a similar feel to many of US Gold's other graphic adventures like *Indiana Jones* and even shares many of their humorous elements. It all adds up to be an absorbing and involving adventure which soon gets its hooks into you.

Verdict

Operation Stealth is a dated, but enjoyable graphic adventure which plunges you into the shady world of Cold War espionage.

The point-and-click controls are a bit archaic, but otherwise this game measures up quite well to the more recent adventures like *Fascination* or *Hook*.

ROE MEAD



A hail of bullets pours from the black limousine and you get fresh brains all over your new suit in *Operation Stealth*.



One of your first obstacles in *Operation Stealth* is getting past the customs official - just sneak off to the line and knock a rummage in your magic briefcase if you're brave.



"Hey! Take me to El Porto." "Only if you promise not to spray egg foo-yung all over the back seat."



HILL STREET BLUES

Ever felt the need to rid the world of all the wicked baddies - you know, men who nick old ladies' handbags right through to the really unpleasant, to say the least, serial killers?



This is your office - just click on the computer and you get to find out about all the crimes you should be solving.

Well, now's your chance with the re-release of *Hill Street Blues*, a huge game set in Chicago where you get to be Captain Furillo, in control of the police force and all their associated resources like the paramedics and specially trained marksmen. You have to keep the streets clean of crime (and bodies, so don't just haphazardly shoot everyone and hope for the best) - if you make too many mistakes you're likely to find your popularity deteriorating swiftly, and you'll be out of a job.

This is actually likely to happen sooner rather than later - although you can choose from a variety of difficulty levels, this relates to the crimes committed rather than the frequency with which they occur, so you start off with muggings and bag snatchings, rather than the heavy-

ker stuff. Time in the precinct moves much faster than it does in real life, so you're likely to find that you're overwhelmed with criminals all over the town before you've actually worked out what you're supposed to be doing. Don't panic though, take your time to remember what each of the 40-odd icons does and you can start to methodically put a stop to the crime wave.

The whole thing's controlled by the mouse and tends to be a bit slow on the uptake. Things are made even more confusing by the number of crimes committed - you need to keep a close eye on which officer you've got sorting out which offender in which bit of the town. Mental agility - or at least a pen and paper - come in very handy.

Verdict

Hill Street Blues certainly has plenty of potential to keep you going for months on end - there are so many different ways you can approach the solving of a crime, not to mention mistakes that you can make, that you're bound to find something new every time you load it up. If you haven't got much patience however, and you prefer your relationship with the games you play to be based on instant attraction you might find this a tad complicated to master.

PAULA RICHARDS



See that block on the right, there, that's the map screen and shows what a huge area you've got to patrol. Click on a coloured bit and you find out where it is.

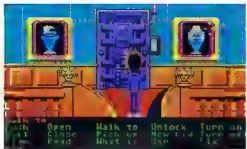


Your first view of part of the area you're supposed to be keeping an eye on. Click on any of the icons on the right to initiate an action.





MANIAC MANSIONS



■ Although it's not much to look at, *Maniac Mansion* has great gameplay to keep you interested

Imagine yourself stuck in a dark house with two American kids for company. These kids would much rather be at the beach or studying physics, but you can't let them go and do what they want 'cos you've got to go and rescue your girlie - she's likely to kill you when she gets out if you haven't done your utmost to save her.

This is *Maniac Mansion*, first released back in 1987 but still giving you the chance for some great gameplay.

Anyway, that's why you're at this creaking gloomy-looking house taking part in an adventure game. You know the sort of thing you've got yourself into: picking up objects and using them on the most unlikely bits of furniture, discovering rooms and other

hidden objects, finding limp lectures in the fridge and you thinking they could be useful one day so you pick them up and carry them round with you; finding a chainsaw you could use on the mad scientist then finding it's run out of petrol... you know, the usual frustrating thing.

Verdict

Maniac Mansion's great fun to play - there are plenty of humorous bits that touch on the faintly macabre, like finding yourself locked in a dungeon with nothing but a skeleton for company - and

you also get to use your brain a bit as well, when you're trying to solve the puzzles to enable you to solve the main problem.

The animated sequences, over which you have no control, are fun to watch and give you the chance to see how Sandy's bearing up under the strain. They also give you an insight into how the other characters work. Although in appearance the game looks rather primitive, there's enough here to keep your interest and you don't really mind too much about its looks.

PAULA RICHARDS



■ To join Dave you can choose two kids from this interesting-looking bunch. Whatever choices you make affect the gameplay, so be careful.



■ Graphics are bright and colourful, the interface is very easy to use and all you have to do is rescue that cheerleader of yours.



BULLY'S SPORTING DARTS

■ Better than *Savable Soccer*, more playable than *Kick Off 2*, *Bully's Sporting Darts* is going to be the footy game this autumn.

Know what your right arm's for? Then pack it in and have a game of darts instead. Jim Bowen's only friend arrives on your ST, dragging loads of fabby darts games behind him.

Bully's Sporting Darts enables you and a pal to pit your arrow-throwing wits in six different tests of skill, tactics and beer-gut wobbling ability. The games - 501, Clock, Football, Tennis, Golf and Cricket all take place on a series of standard or custom dartboards with Bully chastising or praising you all the way. 501 and Clock are the kind of games you can play with any pub team, but the others need you to suspend your disbelief while you aim your darts at a sec-

tion of the board and pretend you're playing for Aston Villa or something. Great, eh?

You know you're in for a laugh as soon as you boot this game up - your ST's sound chip starts blasting out *Down at the Old Bull and Bush* and the graphics appear on-screen in all their crappy day-glo glory. But as soon as you delve into the first game of 501 you're hooked.

A dart-wielding hand appears on-screen which you control with either your joystick or ST's keyboard. As soon as you've lined up the dart for a shot, pressing Fire sends it winging into the cork.

Get a high score after you've released your darts and you're rewarded with a congratulatory "moo" from Bully. Of the "non-darts" games the footy and the golf

are the best as you try to lodge darts in their half of the "pitch" or try to score a hole-in-one.

However, the snooker game is the pits - it's over complicated and very dull. The game presents you

■ *Bully's Sporting Darts* is a traditional game of darts, so try and beat your ST instead.

with nine increasingly hard-to-beat computer opponents.

To brighten things up a bit, there's also a two-player option so you and a pal can play against each other.

Graphically, the game's a bit of a disaster area - there's nothing here which wouldn't disgrace an 8-bit and the sound effects consist largely of the aforementioned chip music and the sound of Bully mooing constipatedly.

Verdict

You're not going to believe this, but *Bully's Sporting Darts* is actually



a lot of fun to play, especially in two-player mode. It doesn't use any of your ST's capabilities, the music is going to drive you bonkers, but you're going to be playing this until the Bullies come home.

BOB MEAD



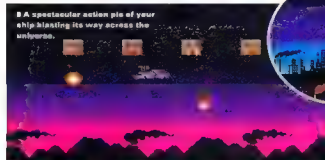
■ *Bully* is Eric Bristolow's better-looking older sister. She makes great cover pics.

METALLIC POWER

You want rare? We'll give you rare – this compilation isn't even on sale in the UK. Rob Mead investigates



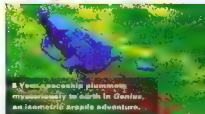
If *Vroom*, hard racing cars cooperate the men from the *Nigel Mansell* in *Vroom*.



A spectacular action pic of your ship blasting its way across the universe.



Outzone a timeless formula game 28 missions of mayhem and puzzle-slay in Outzone.



Vroom, a spaceship plummeting mysteriously to earth in *Genius*, an isometric arcade adventure.

Until now French softies Lankhor have been able to get most of their ST games distributed either through Domark or UBI Soft in the UK, but *Metallic Power* is different. It's only available direct from the company themselves. So, before you pop down to the post office and send a bunch of fivers off to le Continent, you'd better see if it's worth the hassle

Vroom

The best game here has to be *Vroom*, the best racing sim ever released on the ST. It makes *Nigel Mansell's World Championship* look like a trundle around in a shopping trolley. Fast, smooth-scrolling graphics and extremely realistic sound effects make this a racing experience like no other. It's brilliant

You're given a choice of Training, Arcade or Championship modes or you can watch the demo and see how the experts do it. Best of all, get one of your pals to hook up his ST to yours for tons of simultaneous tyre-squealing mayhem.

With only six circuits, the game lacks longevity and there are

no custom car options like more recent racing sims. But, hey, who cares? *Vroom* still knocks spots off the competition. The feeling of realism you experience as your car shoots around the track is awe-inspiring. Take a corner too fast and your tyres squeal in protest and you get some pretty spectacular explosions when you plough into obstacles at 300 mph. A more spectacular view of the action can be achieved by toggling the <F10> key – this zooms you even closer into the action, making the game appear faster still.

Only the Arcade mode can be controlled by the joystick, the rest of the time you need to use the mouse – something which can take a little while to get used to.

Outzone

This is a horizontally-scrolling shoot-'em-up starring a disabled spaceship and an escort vessel. As pilot of the escort vessel it's your job to ensure the damaged

ship gets from one side of a level to another unscathed.

Between you and the exit are a host of baddies, obstacles and puzzle blocks which you have to deal with. There are also a number of bonus objects – like weapon power-ups – for you to collect.

When you first start to play, *Outzone* looks like just another monotonous blast, but the puzzle element and dealing with the stricken ship soon has you glued to your ST. You have to keep constantly on the move, destroying obstacles and blasting baddies while zipping backwards and forwards to check on the drone's progress – it's a bit like a primitive version of *Sleepwalker* really, except it's not so cutesy.

Graphically, the game's pretty unremarkable – the ship sprites are small and there's nothing here to take your breath away. However, the backgrounds are jollied up a bit by the inclusion of some colourful parallax scrolling.

Genius

All compilations have at least one dodgy game and *Metallic Power* is no exception. *Genius* is an isometrically scrolling arcade game featuring the cutesy robotic talents of G

Nius, the chief maintenance robot who's thrown into turmoil when your spaceship crashes and the ship's inhabitants go berserk. You have to guide the little robot from one end of the ship to the other, killing off baddies and



What's worse than an 80 mph traffic jam? A 300 mph traffic jam, of course.

PLEASE, MR POSTMAN

You can't buy *Metallic Power* in the UK. If you want a copy you have to send an International Money Order – no cheques – for £25.50 to Lankhor, 84 bis, avenue du Général de Gaulle, 92140 Clamart, France.

£22.99 Lankhor
0010 33 1 46 38 53 03
Three disks
Not available in the UK

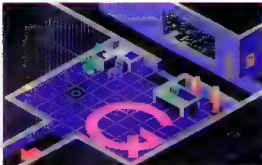
■ This compilation is worth £45 for *Vroom* alone. *Outzone* and *Genius* too, but wither.

■ Unfortunately, *Genius* is 51% too out of three isn't bad.

72

D/GENERATION

Once you find out how to trick your way past the final part of the security system, you get to chat up and rescue the trapped receptionist.



The D/Generation is an advanced form of the Neogen organism developed by a scientist from the Genog Corporation. It's a particularly advanced stage of artificial evolution, and it just so happens that this vicious organism is loose in Genog's Singapore lab.

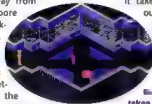
As an intercontinental courier you fly all the way from Finland to Singapore to deliver a package to Genog's head scientist, Derrida. When you get there, you narrowly miss getting killed by the building's security system and quickly realise that the package you're carrying is more important than you thought. So, in a burst of courage you decide that you're the only one who can rescue the trapped workers and bring the package safely to Derrida.

D/Generation is an addictive and frustrating platform game with adventure-style undertones. Not only do you have to find Derrida and give him the package, but you also need to gather information from the surviving workers so that you can solve the mystery and destroy the D/Generation - there are over 120 rooms filled with traps and nasty surprises.

Graphically, D/Generation isn't brilliant, but there are some

humorous touches which make the game enjoyable to play - when the A/Generation blobs swallow you for example, they turn into space hoppers and when the B/Generation cylinders spot you they jump on you and hammer your character into the ground.

The most frustrating part of the game is the joystick controls - it takes a while to work out the relationship between your joystick's eight directions and those on-screen. Once



Trying to get past Derrida's final boss takes a while to master... and if you miss, you fry.

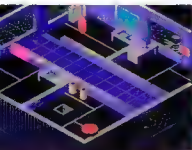
you've sussed that out though, you can really get into the game as you dodge, shoot, rescue and devise your way to the 90th floor where Derrida is waiting for you.

Verdict

D/Generation is an amusing and frustrating journey into adventure and platform land. When you turn on your ST though, just make sure you haven't anything planned, 'cos the chances are you're still going to be playing with it in the early hours of the morning.

Be warned, you won't want to put D/Generation down until you've solved it.

DAVID ROBERTS



These red blobs are the A/Generation... once they spot you, they bounce on top of you and turn into a space hopper... Weird!

D/Generation

£9.99 Hirescape
+0444 246333

Highlights

- Humorous animations and addictive gameplay make this an excellent budget release.
- The controls are confusing - and you're bound to hurt loads of abuse at your joystick.

78

There are much cheaper magazines.

Some have posters. Or stickers.

Some review every game good, bad or average.

Some are easy to get hold of, any time: they never sell out.

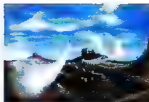
Edge isn't like that.

To be honest, Edge isn't for everyone.

Edge: decide for yourself.

EDGE

Thursday 19 August 1993.



■ The Kremlin is cheesed off with the Chinese... you have to scare them and show them who's boss.



■ You've just locked on to an arms depot. Blow it up and teach them a lesson they won't forget.

MIG-29 FULCRUM

Remember the days of the cold war when there were two superpowers - the Yanks and the Soviets? In those days you couldn't get shoot-'em-up flight sims that enabled you to stage raids on Saddam or Gadhaffi. Oh no! You had to put up with being a Russian or an American pilot upholding your country's status by scaring all the small countries around you.

Well, thanks to Hit Squad you can relive the days before the Berlin Wall came down with the budget release of the excellent *MIG-29 Fulcrum*. You get to train and then fly five missions shooting various objectives out of the sky or off the face of the earth.

The missions start off relatively easy; in the first one all you need to do is fly past a trapped American submarine so that you can film it and bring the revealing tape back to base. Sounds pretty easy, but it isn't because you've got to avoid the British Sea Harriers who are there to protect the submarine - and the RAF just happen to produce the best pilots in the world...

The other missions all get gradually more difficult as you find yourself having to exercise more skill and use a greater range of your MIG's fire power. You go through scaring the Chinese away, destroying a Middle Eastern dictator's oil supplies and blowing up a bunch of terrorists.

Once you've successfully collected 500 points from these missions you can go for the big bust-up in the desert and destroy the same Middle Eastern dictator's nuclear reactor. Good luck - you're

going to need it. You control your MIG either with your keyboard, mouse or joystick. On top of the usual bank left, right, climb, dive and shoot commands there are loads of other keys which have various crucial roles like turning your engines on or off, braking and selecting your weapons and targets. It's a good idea to press <P> to pause the game, then consult your manual to check which key to press.

Verdict

When *MIG-29* first came out more than two years ago it was fast and furious and was greeted with open arms from flight sim enthusiasts. Today, it still compares favourably with the likes of MicroProse's flight sims although it hasn't quite got the depth of something like *B17 Flying Fortress* which we reviewed in *STF 48*. If you're looking for a competent flight sim, but don't want to splash out for the better full priced ones, get it.

DAVID ROBERTS

MIG-29 Fulcrum

£12.99 Hit Squad
or Get 1 852 6653

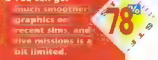
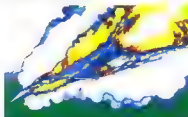
Why?

■ Fast gameplay with interesting missions.

Also...

■ You can get much smoother graphics on recent sims, and five missions is a bit limited.

■ If you're not fast enough or lose your concentration for a bit you can easily get shot down. Watch those British pilots, it's not easy to trick 'em.





CHAMPIONSHIP MANAGER '93



Do you have what it takes to turn a squad of players into a winning team? David Roberts takes on the challenge and two months later...

What is it about football that gets your adrenaline flowing? The action on the pitch or the trials and tribulations of the board room? Well, if

the club of your choice and you have five weeks to go before the season starts.

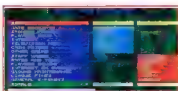
During the build up to the season you can organise up to seven friendlies at home or abroad. This option is great for testing your squad against teams of different strengths and skills.

After the first few friendlies, you spot which parts of your team need strengthening – each player gets rated at the end of the game giving you an indication of who's playing well and who's not.

Gimme Waddie any day

If you have money available, it's a good time to go shopping for some talent. You can take a look at the transfer list, the foreign market or just unleash your scouts on a couple of unsuspecting players. The scouts follow these players around and produce reports on their performances helping you decide whether they're worth the fee.

Once the league starts, things can get quite stressful – especially if you have a small squad. The pressures of the game are such that injuries and match bans are quite frequent and you might find yourself selecting players from the reserve squad to help you out. In



Balance your income and your spending if you want to keep your club healthy in credit.

addition to the league, you also have to compete in the Coca-Cola and FA cups as well as any European competition you might have reached – this includes the Anglo-Italian, Cup Winners', UEFA and the European cups. So, you don't only need good players, you also need ever-lasting ones.

The match

Championship Manager '93 is not an action-packed fiddle game. When you've selected your team and you get to the match screen, don't expect animated highlights and crowd noises, 'cos you don't get them. The screen is a very basic setup and the only indication you get on how your team is doing is three bars

moving up and down and messages like, "Waddie finds the net... but it's disallowed... the linesman spotted an offside." Get the picture? It's very much like going to a match with a bag over your head and asking somebody to tell you what's happening.

So, what's it worth?

The original version of *Championship Manager* was very slow and it was practically impossible to feel involved. The information and statistics that you could get your hands on were great, but it's a pity they weren't representative of real players and clubs.

Domark obviously took notice of this criticism when producing the 1993 version, and have come up with a much more addictive and exciting management sim. Sure, it's still not very fast, but if you like management sims that make you think by giving you loads of options, more statistics and information than you can cope with and the chance to lead your team in a realistic environment, then this one's for you. **msf**



The England squad according to Domark... Every month or so new international squads are announced – glad to see Waddie's back!

you're looking for pure footballing action, get *Sensible Soccer* or *Kick Off 2*. If, on the other hand, all you've ever wanted is to juggle with the statistics of your favourite team and make it successful then Domark's updated *Championship Manager '93* could be the answer to your prayers.

Unlike the original version you now have the choice of using over 2,000 real player names and stats or Domark generated ones. Whichever you go for, just remember that your ST is going to take about half an hour to prepare the game for you before you can actually start. This is a real pain, but apparently that's the price you've got to pay if you want to get stuck into all these lovely player statistics and club records.

Here we go! Here we go!

It's taken a while – well, 30 minutes – but you are now the manager of



This is the engine room – decide on the formation and style that suits the players you've picked.

WHAT'S NEW IN '93?

So, what makes the 1993 version so much better... than its predecessor?

THE MANAGER – you can choose to use the real 1993 squads, players as well as their club histories.

FOREIGN PLAYERS – don't limit yourself to home players, there's a host of talent to be found abroad.

FRIENDLIES – you can plan and organise up to seven friendlies in the four weeks before the season starts.

LOAN PLAYER – if one of your best players is out for four weeks, you can always loan a player from another club to help you out.

NEW FORMATIONS – anchor man and support man are two of the new team formations you can choose.

PREMIER LEAGUE – all the correct leagues and cups – Coca-Cola and Anglo-Italian – have been included.

PENALTIES – decide which players are to take the penalty kicks.

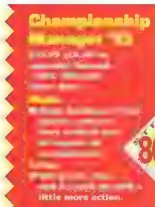
REHABILITATION – decide how much money you want to spend on an injured player.

RESERVE TEAM – you now have access to the promising players in your reserve team.

SCOUT SEARCH – get your scouts to watch one or two players for a few weeks and then get them to report back to you.

SPEED – it's still slow, but is now just about bearable.

THE MATCH – still quite boring graphically, but you get more messages during the game.



GAMEBUSTERS

There are some great cheats, hints and tips again this month, including the long awaited solution to *Wizkid*. Rob Mead does the honours

CAPTIVE MINDSCAPE

It's taken SM Seymour of Liverpool two years to reach Level 20 of this *Dungeon Master* "in space" adventure. It doesn't take you half as long thanks to his tip for short-cutting some of the planets

When you complete a level and have the planet probe in your possession, save the game at the point where you're about to enter your spaceship. Take off and send the probe to search for the next planet and, once there, land and make a note of the location coordinates. Commit suicide. Re-load at the re-entry point and blast off once again – make way to the new planet using the coordinates you now know. This way you keep possession of the probe – which can be left inside the entrance of the new

dungeon until it's needed – and you only need to find the generator room to take off again. You can do this on every planet. Of course, sometimes you find the computer before you come across the generators, but all this means is that you get a spare probe. By the way,

some of the levels have a bug and you're unable to find certain clipboards, so you just have to work out the keycodes for yourself. This is a real pain and to have any chance of success you must do it methodically – it takes a long time as there are an awful lot of combinations in the 16 keys.

CHASE HQ DCEAN

Hold down <Fire> and press the left mouse button and type in GROWLER at the same time. Press <T> to reset the time

D/Generation



Watch out for the invisible space-hoppers on Level 80 of *D/Generation*

5 Fotakls of Southgate, London has sent in a level map for the first floor of this isometric arcade adventure game, recently released on budget – read the review on page 81.

EXIT TO LEVEL 81

KEY



Treasure

Ventilator



Wizkid
It's been a long time coming, but the complete *Wizkid* solution is finally here. Thanks to Jody Smith of Woodbridge, Suffolk who's this month's

£25 winner

Level One

Start the game in Head mode and buy the carrot-on-stick, newspaper, blue gem and token. Now leave the shop in Body mode.

Jump up and down on the well handle until a bucket reaches the top of the well. Jump into the bucket and you're taken to the underground toilets. You're now faced with two doors. Go through the door on your right and enter the ladies' toilets. Once inside, walk left to collect the spiked cola. Walk right to the exit. You're now facing the two doors again. This time enter the left door and go to the men's toilets. Once inside, use the fourth toilet from the right – by pressing Fire – and then walk right to the exit again. Quickly jump

back into the bucket before the toilets flood and go back to the ground floor.

Jump out of the bucket and walk left to the bell. Press Fire to ring it. A shed falls from the sky. Go into it and get past the dog by giving it the newspaper.

You're now in a small room. Walk left to collect the 10kg weight, then jump onto the top right platform. Keep jumping up while on this platform until a trapdoor opens above your head. A switch appears in the centre of the room. Press the switch and exit through the trapdoor.

A donkey appears when you press the switch, so hop on its back and you're taken to the cliff edge.

Use the token in the oxygen machine, then fall off the cliff and collect the kitten. Jump into the water and prepare for Level Two.

Level Two

Buy the red specs and fishbone key from the shop. Exit the shop in Body mode. You find yourself beside a longboat. The six shields on the longboat have various effects – the first three change the ship's figurehead, while the last three release bubbles or change the colour of the screen. Put on the red specs and jump onto the fourth

shield from the left to make the figurehead face left and then jump onto the second last shield to make a door appear. Use the fishbone key on this door and enter it to go to Level Three

Level Three

Things to buy in the shop – elephant, stars (if needed). Once you get into the shop make sure you have either two or four stars. If you don't have enough, buy some. If you have too many, buy a secret screen and lose a star by getting hit by an enemy. Now you can exit the shop in Body mode and enter the first left door. You appear on a platform with a red gem to the right of you, so collect it.

This is where having an even number of stars is important – having two or four stars means you can walk safely through the lava bubbles below you without getting hurt. However, the lava kills you if you have one, three or five stars. If you survive, walk right off the platform and then carry on walking right off the screen.

Now you're in a new room, jump on the TV in the centre of the room to gain an extra life. Walk right to exit. You're now at the start screen again, so pull down on your joystick to summon the shop balloon. Once inside the shop



What's this green Pac Man got to do with *Wizkid* then? Check out Jody Smith's complete solution to this great bounce-'em-up.

DYNA BLASTER

UBI SOFT

Yet more level codes for this frantic *FORMAT* Gold winning blow-'em-up, this time from Collin McAllister of Johnstone, Renfrewshire:

Levels One to Four

URBLHTVG
MXVEEOYH
UCCZVOEN
UXNKWVWH
UCRZVEEN
UOHZHBRE
MWCEHNEA
MBHABVVA

MKYNNWVH
UAVQIZN
MUVCNGGP
UWVOGCHK
MWFCJYH
UCFHQWPU

Level Five
UOBHMOFA
UOHNMOTY
MXECTLY
MWCCWJCH

Level Six
MEVCCGTY
UWVVAT

There are eight levels of explosive fun in *Dyna Blaster*. Are you hard enough to survive them all?

MUWCPH
UAVQKLV
MBAACVP

Level Seven
MWELHKE
MUCECTY
MUBEVVKN



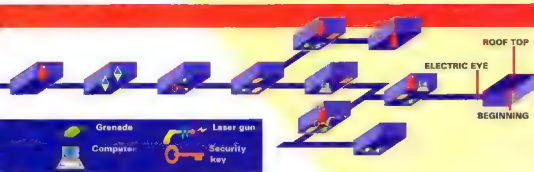
Level Eight
UBHOVBPK
MCKAGILN
UXYFWMGY
UAEFVSLH
MBCABOKN

ELITE

MICROPROSE

Aussie **Chris Macks** might well be on the other side of the globe, but he's still managed to send in a few tips for this old, but fabby, space trading game.

Type **SARA** instead of the password. Then type in the real password. Press the <=> key during gameplay to enter the codes below. The easiest way to get more spacebucks is to get 255 tons of all the cargoes and sell them all straight away. Keep your status



choose the Head mode, then complete this level by completing all the screens. Collect the kitten when it appears.

Level Four

Buy the flying scarf and the bonbon from the shop. Exit the shop in Body mode and wait for the plane to appear. Jump into it and take flight. Pluck the cross from the top of the church then land the plane.

Jump on the tree trunk and press Fire to go underground. You're now standing next to a clown. Go left or right beside the clown and press Fire. A bubble appears above the clown's head and shows you what he wants. When you have what the clown wants in your pockets place it on either one of the two boxes. If the clown asks for something you don't already have, look in the lucky dip between the two boxes and try to find it. You must keep on doing this until you finally give the clown the can of spiked cola which makes him completely legless.

However, make sure that before you leave the clown you have the cross, spade,

red gem, blue gem and matchstick in your possession.

Jump back onto the blue platform you arrived on to be taken further underground. Walk to the centre of the screen and press Fire to dig your way to Level Five.

Level Five

Because you're invincible on this level you must buy the hidden screen. Once on the hidden screen you must headbutt the bombs so they fall and kill you, making sure you don't kill the butterfly. Don't worry about this because, instead of losing a life, you're whisked off to a tomb and confronted by Dracula. Press Fire while in front of him to dispose of him with your cross, then walk right, collect the kitten and exit to Level Six.

Level Six

There's no shop on this level. Kill the guardian by staying behind it, so it cannot shoot you. Staying on the right side of the screen means you can't be killed because you're in a safe zone. If you don't shoot anything apart from the guardian on this level you get five extra lives.

Level Seven

Buy the TNT, mouse and sharp pin from the shop. Once in Body mode

jump on the seesaw and place the mouse on the cheese. After it's finished eating, stab it with the sharp pin. Jump onto the seesaw to send the weight flying through the drum. You're now in a room with a green gem flying around the ceiling. To get this gem you must jump on to the Jack-in-the-box which throws you into the air to catch it.

Outside the drum again, walk left over to the cannon. Use the TNT and the matchstick with the cannon before jumping to be catapulted to Level Eight.

Level Eight

There's no need to buy anything for this level. Leave the shop in Body mode and jump straight up into the woman's mouth to be swallowed.

After a short story scene you end up in bed. Get up and jump up and down on the top bunk until a yellow gem appears on the carpet. Collect the gem, then walk right and exit.

After the woman spits you out, pull down on your joystick to summon the shop balloon. Now exit the shop in Head mode and finish the level by completing all the screens.

Level Nine

Buy a can opener from the shop. In Body mode walk to the centre of



Wizkid definitely has a bit of that fizzy feel to it.

the turtle and press Fire to cut the turtle's shell off with the can opener. Jump into the hole in the shell. You see four coloured orbs. Place a gem on each orb and collect the huge pile of cash in the middle. Walk right and exit.

Pull down on your joystick to summon the shop balloon again and exit the shop in Head mode. Keep playing until a key appears. Pick it up to let Niffa out of jail and to have a race to the final level.

Level Ten

There's no shop on this level. This final level takes the form of *Wizkids*, which is an *Asteroids* clone. To complete the game you have to beat Zak's high score - about 55,000 points.

This is quite hard, so here's a tip - when the spaceship appears flip the screen as far as possible, but without appearing back at the bottom of the screen again. Position yourself so you're totally off-screen and you're invincible. Stay here and keep shooting until your score reaches 55,000. That's it. You've completed *Wizkid*.



Follow this solution to the letter and you can keep on bouncing to your heart's content.



Now hear this

Your Sinclair's final, ultimate and amazingly last issue, containing a bumper 68 pages of spectacular wonderfulness, goes on sale on Tuesday 3rd August. Go on, buy it. You owe it to your Speccy. Or something.

**YOUR
SINCLAIR**

It's crap. In a funky skillo sort of way.



"clean" and the Galactic Police soon stop bothering you.

■ The puny civilization of the English offers you the recipe to elated cream fudge, a nuclear technology.

Function	Byte	Value
Galactic		
Superdrive	28	01
ECM System	18	01
ECM Jammer	30	01
Cloaking Device	32	01
Escape Capsule	20	01
Energy Bomb	22	01
Energy Unit	24	01
Docking		
Computer	26	01
Fuel Scoop	60	01
Fuel	13	46
Missiles	15	04
Pulse Lasers		
all round	1b	9f
Change minutes	9b	0-3b
Change hours	9d	0-17
Change days	9f	User
Change cursor	ad	User
Change legal status	85	User
Fugitive =		ff
Offender =	20	
Clean =	00	
255 tons luxuries	48	ff
255 tons alloys	58	ff
255 tons		
medicals	78	ff
255 tons slaves	40	ff
255 tons		
computers	50	ff
255 tons		
machinery	54	ff
255 tons alien		
items	74	ff
255 tons food	34	ff

MIDNIGHT RESISTANCE OCEAN

Press <F10> during play to pause the game. Type in SAMANTHA-LYON for infinite credits and lives. While the cheat is active press the following keys:
F1 - Normal gun
F2 - Full auto

- F3 - 3-way fire
- F4 - Shotgun
- F5 - Flame thrower
- F6 - Homing missiles
- F7 - Shower
- F8 - Nitro
- F9/F10 - Quit game

PANZA KICK BOXING

US GOLD/KIXX

Start a match and - when you can move the players - push a cursor key. Press <F1> and then <F2> and a yellow thing appears. The round is now recorded until the time stops - the colours of the game should change.

When the time stops, you can use the cursor keys or joystick to use the playback options. You can do this on every round.

SKWEEK

INFOGRAMS

Hold down the Spacebar and press <F2> on the title screen for a random level.

SPACE CRUSADE: THE VOYAGE BEYOND

GREMLIN

Alex Johnson of Ely, Cambridgeshire has discovered a cheat for this space war game.

Load in a commander from the original game who's completed all 12 primary missions - he should be Captain Supremus in rank. Now start any mission. If you complete the mission or die trying, your commander is automatically promoted to Fleet Admiral without having to win nine of the ten new missions.

Civilization MICROPROSE



D Jones of Bilston, West Midlands has sent in a few tips for this **FORMAT Gold** winning god-game. Now there's no excuse for not taking over the world.

General

Choose your starting race with care. Germans give you two settlers, but Greeks and Indians give you a technical advantage.

Develop the wheel as soon as possible. It's very useful for attacking and counter-attacking your enemies.

Bronze weapons should come next, followed by the alphabet, writing and literacy. This should give you the Great Library Wonder - build it as soon as you can as it gives you technology from other cultures - as well as the library and the diplomat.

Only build in the cities when necessary. At the beginning of the game you can set the tax rate to zero to speed up development, but as soon as you build something - except for a Wonder of the World - you have to set a tax rate or you go broke.

Explore as much as possible. You can pick up new cities, new technologies and friendly forces. You also learn where and when to expect attacks from unfriendly civilisations and you can plan ahead.

Develop all the land around your cities to their maximum. Even though you gain no resources by building roads in forests, you gain with improved transport. Joining all your cities with roads or railways also means you can rush forces quickly to a city under attack.

When possible change your government to Monarchy, then to Republic and, eventually, to Democracy.

If you build the Colossus Wonder expand the population of the city where you want to build it as soon as possible to maximise its effects.

It's possible to win the game - King level - with as few as eight cities, but can be a push, especially when playing Earth.

Warfare

Attack and take over rival cities when they are around three to five in size. You can then take them over without destroying them.

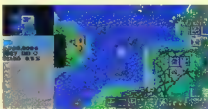
The chariot is the best general purpose vehicle at the start of the game. So make sure you produce a few of them as soon as possible.

Remember that coast cities can be attacked by ships. Cruisers are wonderful for this, since they can take a lot of punishment.

Before you attack a city, send in a diplomat to steal whatever technology you don't have.

Just because another race has better weapons it doesn't mean you can't beat them. Short, quick wars even the odds out very quickly.

■ Set sail for foreign shores and the promise of war booty in Microprose's Civilization.



Those priceless Cover Disks covered

Thanks to Matthew Bellamy, Marcus Aldley and Nathan Jarvis for sending in level codes as well as the hints and tips for those STF Cover Disk games.

ABOMINABLE

STF Cover Disk

- Level 5 - OOOER
- Level 10 - FILMS
- Level 15 - ATARS
- Level 20 - QUEEN
- Level 25 - GUNSH
- Level 30 - WRED
- Level 35 - DWARS

■ Keep your eyes peeled this Abominable puns-'n'-up.



Level 40 - MURAL

Level 45 - NIGHT

Level 50 - FINISH

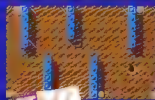
To activate the game, CHEON at the password. CHEOFF turns it off again. <F2> takes you up one level. <F3> takes you down one level. <F4> takes you up ten levels. <F5> takes you down ten levels. <F6> takes you to the next level of the game.

BALLS - STF

Cover Disk 40

- Level 5 - D MODE
- Level 9 - MELLOW
- Level 13 - K BUSH
- Level 17 - DEBUS
- Level 21 - Y WEBB
- Level 25 - JOSHUA
- Level 29 - COOPER

■ If you're a fan of the game, Kudos to a Turbo-style game. STF Cover Disk 40.



■ Source your ball around some tricky obstacles with the help of a few conveniently placed runners in Balls.

KUBES -

STF Cover Disk 40

Select two blocks in a row and start. Highlight the first row and hold down <A> or <S>. Leave everything heavy on the keys, being careful not to put it on <D> or <C> and go away. Come back 29 minutes later and see how you're doing.



CAPTAIN BLUNDER



He's at it again – Captain Blunder, the ST gaming wonder, can't stop solving your gaming problems

Don't lose your bearings



I can't find the right keys for the NAV 2 preset bearing in A320 Airbus and the key combinations in the manual do not work. Can you please help?

Steve Brown, Co Durham

CB: There should be an ST supplement to the manual telling you the right key combinations, but if you haven't got that, press <Insert> and <Clr Home> to get the NAV 2 preset bearing. Thalion can be contacted on ☎ 021 442 2050 for more details.

Cheating the environment

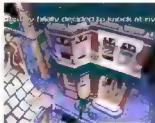


Do you know of any level cheats for Mindscape's Captain Planet and the Planetwalkers?

George Leigh, Wiltshire

helpline for advice, but it gives me advice on something which isn't accessible to me yet. Have I done the clues in the wrong order or am I missing something?

Neil Crittenden, Scotland



■ Unfortunately, so did the Jehovah's Witnesses. And, typically, I was in the bath.

CB: Without knowing what you've done so far, it's hard to tell you what to do next, so turn to our Back issues pages on page 52 and order yourself a copy of STF 33 – it contains a complete solution

Call yourself a driver?



Can you please tell me which of the issues of ST FORMAT included the car setups for Microprose's Formula One Grand Prix?

Andrew Acton, Kent

CB: Sure, we printed the setups in STF 41 and a few gameplaying tips in STF 40. Turn to page 52 to order your copies if you missed them.

Quadruple bogey



I've written to Gremlin complaining about a problem with Greg Norman's Ultimate Golf, but have received no acknowledgment or reply.

Basically, the game has developed a gremlin of its own and just hangs up with a white rectangle appearing on the screen. I'm now unable to complete the game with-

out this problem occurring no matter what options are set. It would appear to be either a memory problem or a corrupt games disk – I have had no problems with any other games or Pagesstream. I have an STFM running TOS 1.02 with a 2.4MByte upgrade

G White, Reading

CB: We contacted Gremlin's Customer Services department and, unfortunately, they have no record of you contacting them. The problem you describe is one they've never encountered before and suggest you return the disks to Gremlin Graphics Software, Freepost, Sheffield S1 2AY with a note explaining the problem.

Gods must be... faulty?



I've had a copy of Gods for about a year, but just recently it stopped loading up – all I get is the Desktop. What could be wrong with the disk?

Simon Larkin, Kent



■ The hardest part of Gods is to choose from all the goodies in the shop at the end of each level.

CB: Sounds like the data's corrupt to me. Send the disk back to Renegade, C1 Metropolitan Wharf, Wapping Wall, London E1 9SS with a brief note explaining the problem and they'll be happy to send you a replacement

Money makes the world go round

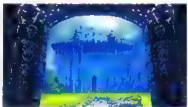


In Ishar when I buy a weapon and go to the character sheet to place the weapon in the charac-

ter's hand, the character sheet disappears and I'm unable to use the weapon. Is the game faulty or must I do something beforehand?

Karl Debono, Gibraltar

CB: To buy something, you simply click on the object you want, then click on the character box or on the character sheet to use it. If this doesn't work, then you obviously haven't got enough money to buy the goods. Give one character all the group's money and try again. If it still won't work you have to go bopping more boddies until you have enough gold to buy the weapon you want



■ One minute you've got a lovely view over the Sussex Downs, the next someone's stuck a great big castle in the way.

With a little help



I've recently bought Leisure Suit Larry and I can't get anywhere. I've read you can send off for a hint book, but the telephone number doesn't work anymore. Have you got the new number?

Simon Topliffe, Kent

CB: The hint books are still available from Sierra Online, Unit 2, Technology Centre, Station Road, Theale, Reading, Berks RG7 4AA, price £7.99 each. You can also phone them on ☎ 0734 303171

Is it just an illusion?



I've just bought Magic Pockets and can't get from the first sector of the first world directly into the second. It takes an hour for me to play my way through and then the only message I get is "Piracy is killing computing," although I have



■ Captain Planet is one of those eco-friendly, caring, sharing '80s men. What a wimp.

CB: Sadly, no. The only known cheat works solely with the original version of Captive. On the level selection screen, put your Captive disk in the drive and press <Fire>. Your ST tells you the disk is broken, so put in the Captain Planet disk and the cheat mode miraculously appears.

Stuck in a corpse



In Cruise for a Corpse I've managed to proceed to 12:40 and my code from the mermaid is '8C. I've now been stuck for two months at this point. I've phoned the US Gold



a registered original. What am I doing wrong?

Simon Rosenheim, Switzerland

CB: Don't quite know what's going on there and neither do Renegade. Just send your disk back to them at CI Metropolitan Wharf, Wapping Wall, London E1 9SS with a note briefly explaining the problem and they'll try to sort you out.

Lock picking



I can't find a file to pick the locks in *The Secret Of Monkey Island*, where do I get one?

Christopher Yates, Milton Keynes



CB: Odds the prisoner is a smelly reprobate, but his auntie takes great cakes.

CB: Give the gopher repellent from the Governor's Mansion to the prisoner in Melee jail. He gives you a cake. Open it and then you find a file inside that you use on locks.

The spy who cheated me



Are there any cheats for *The Spy Who Loved Me*?
Susan Johnstone, Aberdeen

CB: Type MISS MONEYPENNY on the first title screen and you get infinite lives.

What a load of bollisticks



How can I get hold of two Cheetah Bollisticks when most mail-order companies won't send hardware abroad or charge huge amounts of money to do so?

Bastiaan de Bruin, The Netherlands

CB: Luckily, you can buy the Bollisticks direct from Cheetah, priced at £9.99 each. Simply send your order to Cheetah, Unit K1, Old Wellington Road, Lyn Town Trading Estate, Eccles, Manchester M30 9QG. Eurocheques should be made payable to Cheetah.

Earth shattering news



I've heard there's a cheat for *Sim City*. What is it?
Kevin Stapleton, Swindon

CB: Press down one of the <Shift> keys and type MONEY, FUND or CASH for an extra \$10,000. Don't do this too many times though because every tenth time an earthquake destroys certain areas of your town

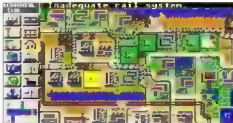
The key to success



How do I get past the guard in *Fascination*? Do I need the card for the Digicode? Where is it?

Jethro Day, Leicestershire

CB: The keycard for the Digicode can be found in the red car in the parking lot. However, you need to get the car keys from the storeroom and then get Jon the Tramp to kick the car tyre before you can get it **STF**



CB: When asked about the rail system when the nuclear reactor's gone into meltdown? Move Jon and Sam to *Sim City*.

Ask me, ask me, ask me

Send in all your **STF** game problems to Captain Blunder, c/o *ST Format*, 20 Newmarket Road, Bournemouth, Dorset BH1 1AA. We'll try to solve your problems as quickly as we can. But if you're not happy with the answer, we'll refund you the money.

If you're a regular reader of *ST Format*, we'll give you a special discount on our *ST Format* magazine. Send us your name and address to: *ST Format*, 20 Newmarket Road, Bournemouth, Dorset BH1 1AA. We'll be in touch with you soon.



The Grid & Orbital

FUTURE MUSIC

Discover how two top dance duos get their acts together

Plus...

- ◆ The latest music-making hardware and software reviewed
- ◆ Tutorials and how-to guides from the top names in modern music
- ◆ 100s of second-hand bargains advertised every month

FM10 is at your newsagent on 20 July - don't miss it!

Britain's best-selling music technology magazine



PUBLIC SECTOR

Welcome to software that's cheap but often of a sunny disposition...

DEMOS

REVOLUTION FLOPPYSHOP DISK DEM 1984

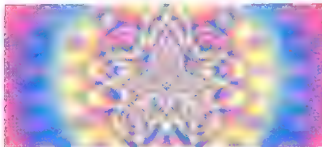
Revolution is another one of those huge megademos - it has a chunky introduction leading to a menu where you have to fly a spaceship looking for bases to get to the sub-demos.

There's a couple of thumping sampled tracks and a lot of absolutely

horrendous chip music. Among the sub-demos is a playable racing game, lots of scrolling borderless screens, starfields and very wobbly graphics.

It's all very clever, of course, but not amazing or wildly original. Some of the full screen scrolling stuff is impressive but it's all been done before a zillion times. One for avid collectors only.

STF Rating: 65%



■ Listen carefully, the secret of spiritual growth is to accept what is without prejudice. Remove your trousers and start whistling.



■ Oh, my god! Everything's gone horribly wobbly. One of the eight sub-demos from the Revolution demo - it's all moving in different directions; makes you feel a bit sick after a while really.

BEDLAM FLOPPYSHOP DISK DEM 1984

Flash scaleable font-style credits lead into the now popular format of hypnotic colour cycling patterns and sampled sounds, stuff that makes temporarily confused people go "Cor! Wow! Amazing!"

The sound module is a mendering synth affair to match the trance-inducing screens. The screens

are all abstract patterns whose colours wobble about pleasingly. There are no really clever programming tricks involved and, although the pictures are very pretty and all that, it's likely to be a rather short-lived fascination.

Should keep the cat amused for half an hour and the rave generation happy for the entire weekend. No offence - you've got to laugh, haven't you? It's the law.

STF Rating: 61%

EDUCATION



DROP DOWN WORDS

MEILIN
DISK 1984/1985

Learn to spell and type simple three-letter words which drop from an aeroplane on to the ground. If you haven't managed to get the correct spelling within three goes you die in a huge and violent explosion, but if you do spell the word properly

■ Even on Level Four you only have to spell "pet" - soon after the word drops, though, the letters are replaced by stars to help your memory develop.

you're rewarded with an encouraging sign saying something like, "Well done." The words are very easy to get right and don't get harder on later levels but there's a text editor so you can replace the ones your child knows with harder variations. While there's nothing particularly wrong with this game, it doesn't offer anything new or special in terms of techniques or graphical appeal.

STF Rating: 69%

SUPER JUMBLE AND SASHA GOODMANS DISK GD 1955 1MBYTE ONLY

There's one alphabet puzzle here in Super Jumble along with some times table questions with Sasha the Siberian husky. Yes, the dog type of husky. Bit of a mixed bag really - Super Jumble goes one step beyond the traditional, "put your alphabet on the right order by clicking on the letters to swap them" by using some of the more obscure alphabets, like Hebrew and sign language as well as

clocks. Alternatively, you can talk maths with Sasha. You get a picture of this dog next to your questions which come from totally different levels of times table, so you could get 1 x 4 next to 9 x 7. Get the question right and Sasha barks, get it wrong and she whimpers pitifully. It's quite fun trying to give the dog a sore throat, but the usefulness of the program is a bit dubious because of the different level of question. One for precocious kids who think they know their multiplication and alphabets inside out.

STF Rating: 67%

■ The first dog ever to know her times table better than you - and she gets so upset when you don't understand either... careful you don't give her a nervous breakdown.



**Mathematics
with
Sasha**
The Siberian Husky Dog!



Levin, Vladimir, 4



THE FANTASY SHOW
EMERALD CITY
DISK SP 14

A slideshow of digitised screens accompanied by some very ropey chip music that'll soon have you turning the volume right down. The pictures are fairly good quality and mostly taken from scans of air-brushed artwork. There are 14 in all and they all have a fantasy theme.

The pictures are in *Spectrum 512* format and, although not top notch stuff, are interesting enough to have you watching the show a few times before filing it away in your disk box. You can get at the files from the Desktop so if you've got *Spectrum 512* you can mess about with the pictures for your own nefarious purposes.

STF Rating: 48%

**MASTER DOODLE
V1.3
FLOPPYSHOP
DISK EDU 3554C**

A Shareware selection of programs enabling you to doodle to your heart's content – there's the chance to write on the screen in any colour and in any direction you choose, which could be good for creating crosswords. Then there's the chance

to make lots of pretty but totally meaningless pictures out of lines with spots of various colours

Choose pictures from a ready-made selection to create your own scenes and generally fiddle about with the controls – the only faintly educational bit is where you get the chance to learn about the RGB sliders and the effect it has on the end shade in the “colours” section.

STF Rating: 62%

**SPARKY QUARTET
MUSIC COLLECTION**
FLOPPYSHOP
0800 000 0620

Four pieces of musically competent Quartet music including a smart version of *Magnetic Fields 2* by that French bloke with all the keyboards.

■ **The Sparky Quartet Music Collection**, four pieces of sampled soundtrack, a picture of some drums and a cheeky grin. Beep, beep, beauty-beep.

SONIC VIOLENCE
DEMO
NIGHTSHIFT
DISK DEMO 170

A music demo featuring the work of Sonic Violence from the album *Transfixion*. It's called industrial music or something equally er, interesting and it involves hitting things rather hard and making lots of loud noises. There are three fairly long samples

It's not hail bad, and the author gives permission for you to use the songs as you want. There is a utility to join the voice sets, song files and a bit of text into one file. This can then be packed with *Pack Ice* to save heaps of disk space and played with the player program. If you're into using *Quartet* then these could turn you a little green. Listen to too much of this kind of thing and you'll never be able to tolerate a chip tune ever again. Groovz stuff.

STF Rating: 52%

and a few picles and credits. The type of music is a bit of an acquired taste – perhaps you'll like it if you're from an institution.

Really, though, it's perfect if you really want to annoy someone older than you or if you're feeling particularly psychotic. Not so much entertainment as an experience and not one you're probably going to want to repeat too often.

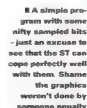
STF Rating: 33%



**TALKING JUMBLE
AND ALPHABET
MONKEY**
GOODMAN'S
DISK GO 1957

Two simple alphabet games to familiarise you with the order of the alphabet and the layout of the keyboard. *Talking jumble* is a bit like one of those plastic sliding puzzle games – you get the alphabet, jumble it up and then, by clicking on different let-

ters, put it back in the right order. If you can't remember how it goes, you can ask the program to say the alphabet for you – the blocks flash as they speak. *Alphabet Monkey* is a picture of a monkey who invites you to press a key – when you do he tells you what letter it is. Could be good to help you improve your typing skills. Both puzzles run in mono with the help a demo of the mono emulator *Monulator*.

STF Rating: 55%

WORLDWIDE SHAREWARE SUPPLIES

Goodman International are now one of the longest established ST libraries in the World. For over seven years we have supplied users, (and other libraries), worldwide, with the very best of ST Public Domain and Shareware.

Now Includes New Dedicated Falcon Section

Judge for yourself, send today for our catalogue of shareware. It's still only £2.95, and is now over 180 pages, with screen shots and descriptions of all the very best in ST & Falcon PD & Shareware.

Association of Shareware Professionals Approved Vendor



Goodman International (Dept STF)

16 Conrad Close, Meir Hay Estate, London, W15 6LH, UK



Tel: (0782) 335650 Fax: 0782 316132

New Age PDL

All PD disks are DOUBLE SIDED

Telephone: (0702) 526435

Only 15.00 Each (UK)

All PD disks are FULL

All our PD disks are double sided and full we have over 1000 programs FREE CATALOGUE, £2.95. FREE software is available for our customers. We also have a dedicated section for the new ST hardware. We have a dedicated section for the ST hardware. We have a dedicated section for the ST hardware.

All disks are E. 3.5 inch unless otherwise stated. All disks will only run on a COWS system except H. High resolution printer only. A. Any monitor suitable.

ART AND GRAPHICS

- ART 74-78: Fantasy Land 1-4 (4 disks) with 100 new art and graphics, including many new art and graphics. Only £15.00
 ART 79: 128 pixel art program that can generate art programs. 1 megabyte. See Free Catalogue £15.00
 ART 80: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 81: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 82: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 83: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 84: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 85: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 86: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 87: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 88: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 89: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 90: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 91: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 92: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 93: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 94: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 95: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 96: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 97: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 98: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 99: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00
 ART 100: Sea World Spectrum 517 (1 disk) with 100 new art and graphics. Only £15.00

GAMES

- GAME 41: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 42: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 43: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 44: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 45: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 46: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 47: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 48: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 49: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 50: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 51: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 52: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 53: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 54: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 55: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 56: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 57: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 58: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 59: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 GAME 60: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00

DEMONSTRATIONS

- DEMO 41: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 42: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 43: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 44: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 45: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 46: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 47: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 48: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 49: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 50: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 51: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 52: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 53: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 54: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 55: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 56: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 57: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 58: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 59: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 DEMO 60: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00

APPLICATIONS AND UTILITIES

- UTIL 41: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 42: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 43: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 44: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 45: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 46: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 47: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 48: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 49: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 50: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 51: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 52: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 53: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 54: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 55: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 56: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 57: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 58: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 59: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 UTIL 60: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00

SOUNDTRACKER MODULES

- TRAC 41: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 42: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 43: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 44: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 45: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 46: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 47: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 48: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 49: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 50: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 51: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 52: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 53: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 54: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 55: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 56: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 57: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 58: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 59: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00
 TRAC 60: Chess of the Chess for the King. A superb chess program. 1 megabyte. See Free Catalogue £15.00

WE STOCK FA, COM SOFTWARE PLEASE ASK FOR OUR LIST

As well as the disk listed we also cover: education, health, programming, on-line magazines etc. We have official editions of books etc. Downloading software (educational) Organized Choice (professional) etc.

New Age PDL (ST) P.O. Box 30, Leigh-on-Sea, Essex S99 4AD
 Author! We want your programs! Please send in lots of your programs and we will swap for our PD disks. Please don't just send disks

AQUILA

100a Mackenzie Road
 Beckenham, Kent
 BR3 4SF



All Dates are D'S and Full
 Catalogue costs £10.00
 Discs cost £15.00 each
 1 free every 4 ordered

- ACT 47: Castle Capers / platformer similar to Ozmo / Arcan. Gekman. Played
 ACT 48: Hatzhewski / overhead car racing / Demo. Saver Nuts / 200K game
 ACT 49: Cyberstone Hovershot Simulator demo / 3D shoot em up for IBM ST / 11
 STR 11: Arthur of the Britons
 STR 14: Coarse Arch / Fighting simulator for IBM ST / ONLY 1
 MSC 21: CIA World Fact Book / S' extracts about 4 discs
 PL 20: JL 2D CAD MiniDraw / IBM
 PL 22: ST Diary The Franciscan Redstone Videbase Label PVT Antwerp PD
 MUS 13: Mozart's Dec Waltz / Kandinsky's Music Painter's Software
 MUS 15: D'STRSSSD 18 high quality A/R samples / FX/Intr/Intr/Rhythm/Voice
 PL 23: Ripples, Design 3D Colourful Final Art ST V2 32 Looker
 ART 17: 122 compressed colour fonts for demo etc / Doges. formal PVT

Telephone 081 778 0644

The Safest PD House in the Land

WHAT MAKES THE WIZARD SO SPECIAL?

FULL DOUBLE SIDED DISKS ★ FAST SERVICE ★ RELIABLE
 ★ KEEN PRICES ★ TOP QUALITY (WE ONLY USE THE BEST)

JUST A FEW EXAMPLE DISKS FROM OUR COLLECTION WHY NOT GET ONE OF OUR CATALOGUES?

- ART 07 Superb art package, ideal for simple
 GTP 23 built in team Art paper wizard in
 monochrome for best quality of print. Ideal
 for leaflets etc. D5 disk
- ADV 01 DUST DUNGEON &
 DRAGONS. Role play adventure
 PARANOIA, CHANTY, REALM &
 L'ROZIO CITY 3 more good adventures also
 on this disk
- ARCSO HACHIAN, superb pacman clone
 MR PACKY, another superb pacman
 SOCCER brilliant 1D football game 2 players
 MUTANT WUPELO! dual shoot em up
 INVADERS needs no description
- BRD04 CHESSE, superb chess game
 DECODER excellent mastermind SLTFR
 SIMON, complete version of hand held game
 DOMINOES, puzzle game, GOLF card
 game. Also on this disk DRAGON MAZE, 2
 game, SENNAI BACAGAMON,
 BRIGITH STARKRE, BATTLE SHIPS
- ARCI HOME, and L ORB 2 super pinball
 game, GALTIC RANGER, unusual shoot em
 up, MONSTER & BALL COONS, bonanza
 clown a wip the balloons, FRIJOLINI
 another good arcade game rescue the hunka
 A, AERIAL, super game and interesting
 version on the pinball theme. Also on this
 disk TREASURE, WIDOW MAKER,
 ALAN'S BREAK, UK 7
- AST 01 PLANT TARIUM plays the best PD
 Astronomy program. SKYMAP another great
 Astronomy program plus 48tronner
- BRD 01 LAZER CHESSE, OTHELLO,
 CHESS, WHEEL OF FORTUNE, and
 many. A superb collection of BOARD GAMES
- ART 01 ST GIGI animation package
 formerly sold at £80.00 now PD. VAN
 GOGH Paint package with animated sprites
 LANDSCAPE Generators including
 GENASIS and a CAD CATALOGUE
- MUS 31 New Version of The
 ACCOMPANIST SEQUENCER (V23)
 WPT 01 SWITZER R V2 and
 FIRSTWORLD. The best used processors for
 the ST (T) plus a spell checker, print spooler
 and a collection of ready to use letters
- QUAD 07 THE SCOTCH D D STARTER 3
 Over 300K of text, interviews and 6 paragraphs
 from the original ST ARTICLES and NEXT
 GENERATION plus loads of pictures from
 both series. A must for all ST fans
- AR 04 TETRIS, superb tetris game (see
 review in state 1 of UK) KLAX TRIX,
 WFTRIX & TETRIS, 3 more good games
 on the tetris theme. MR DICE, COLLAPE &
 BLRGER, 3 more good games to fill this
 super value disk
- ARCSO BLAT Super Fa'ing Blocks game
 STE only, Best or 1 Meg
- BRD10 COARSE F, SIURMAN
 Superb angling simulation 12 venues. Choice
 of rods, practice or magfish and more. A
 must if you have 1 meg ST and any inter-
 face.

SELECTION OF 46 COMMERCIAL GAMES
 ALL AT UNDER £3.00 EACH

WIZARD P.D. 24 HOUR ORDERLINE

178 Waverley Rd, Reading, Berks, RG3 2PZ Tel: 0734 574685

ANSWERPHONE is at all other times
 178 Waverley Rd, Reading, Berks, RG3 2PZ Tel: 0734 574685

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

ALL PD DISKS AT A SUPERB PRICE. ONLY £15.00 EACH
 BULK PRICES AVAILABLE

FORMATTER'S COLLECTION
FLOPPYSHOP
DISK UTL40-4



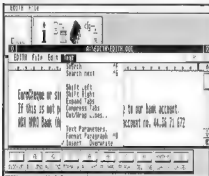
■ Every major PD and Shareware formatter is represented in the *Formatter's Collection* - the shell menu program provides a simple point and click interface enabling you to easily access each program on the disk.

So you think that the built-in formatting routine on your ST is good enough for you? Well, plenty of programmers don't think so, and have written their own formatters to give you extra options over and above the standard 80 tracks and nine sectors provided by the ST's Desktop routine.

This disk uses a shell program enabling you to run any of the 14 formatters, two disk copiers, virus killer, document reader or any other program you choose. Extra features of the formatters include PC-compatibility, extended formats, the ability to format disks in both drives simultaneously and format disks as a background task. Good stuff.

STF Rating: 82%

EDITH
FLOPPYSHOP
DISK WRD3722



■ Simple use of function keys, Desktop icons and drop-down menus in the text window means that *Edith* can be mastered by everyone.

Everyone needs a word processor or text editor at some time, even if it's just to dash off that quick thank you letter for your Christmas present from Granny. A neat new Dutch text editor called *Edith* comes with all your basic word processing needs, with all the functions you would expect to see in a full professional program. Excellent use of GEM ensures that there is no need for a manual, you just run the program and use it. It's Shareware and well worth the £10 registration fee, which is refundable if you buy the professional version of the program that's going to be released this month.

STF Rating: 73%

DC SEA
GOODMANS INTERNATIONAL
DISK GD1962



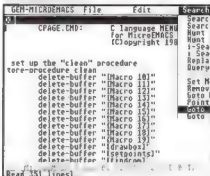
■ DC SEA only has nine options available but these should cater for all your file compression problems, just click on the file type to convert and hit the Go button.

Bulletin board files, Cover Disk programs and PD library files now usually use file compression to cram more info into a smaller space. This is fine as long as you can decompress the files so you can get to the software in them.

If you are given compressed files and you cannot extract them it can be very frustrating. DC SEA is a handy utility that converts the four major ST archive types into self-extracting files, and does it very well too. The archive types covered are ARC, LZH, ZIP and ZOO files. DC SEA can also convert self-extracting files back to standard archives. A must for every serious utilitarian.

STF Rating: 77%

MICRO EMACS 3.11
FLOPPYSHOP
DISK WRD3726



■ **Micro EMACS** is a professional standard text editor written by programmers for programmers, just look at all of the search options available. Good quality stuff, but a bit specialised.

Micro EMACS is a text editor designed specifically with the C programmer in mind. It is ideal for generating C code in ASCII format to be imported into your C compiler. Although this latest version uses a GEM shell with drop-down menus for all major functions, the bias towards experienced computer users is revealed by the fact that an IBM PC-style command line is used for loading and saving files rather than the more convenient GEM file selector. That said, **Micro EMACS** is packed with functions to give you complete control over your C file output.

STF Rating: 69%

CIA WORLD FACTBOOK
TUMBLEVANE
DISK FAC 21

■ The 1991 CIA World Factbook, previously produced exclusively for use by US government departments by the CIA. It's a huge mass of text and comes with the *Revenge* document reader.

Because of the Freedom of Information Act in the US, previously restricted information is now freely available, including the CIA World Factbook. Don't expect loads of secret stuff because they're not quite that liberated. What you do get is a four disk set of text files with details on every country in the world. There's loads of stuff about area and population right through to political and economic make-up. All very interesting and ideal if you want to quickly get a picture of a country for a project or something. Unfortunately, most of the entries for the UK seem to be missing, so start working on your conspiracy theories now. Also included is the number of communists in each country - handy if you're planning to destabilise a foreign government, not that anyone would, of course.

STF Rating: 74%

MASTER BROWSER
GOODMANS INTERNATIONAL
RIVE EST 1964



■ Clicking on a line of text pops up the Block menu, you can switch to the Position menu with a single mouse click to move to another area of the document. This enables you to quickly select large blocks for printing.

Yet another text-related disk, this one contains a clutch of file viewers enabling any file to be loaded and examined on-screen at leisure, whether it's a text file or a program file.

The best of the bunch is *Master Browser*, with a wide variety of options including block functions, search, Atari Clipboard compatibility and a comprehensive printing setup. The use of pop-up menus is an excellent touch, click on a line of text and the Block function menu is instantly available on-screen, making marking of blocks a simple task. Marked blocks of text can be printed or written to disk, this is just about the extent of the program's capabilities. Some editing functions would improve the usefulness of *Master Browser*.

STF Rating: 61%

GAMES

SLAYER TUMBLIVANE DISK HST 2

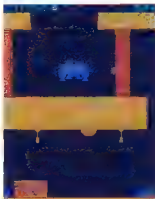


■ All quests involve a few scraps and Slayer is no exception. You get a selection of strategies to try, dropping your weapon and screaming for mercy isn't one of them – tough lot these adventures.

One of a new range of Licenceware, by an outfit calling themselves HeavenSent, Slayer is a text adventure – stop groaning out there, they're good fun. Instead of typing in your commands you are presented with options and you press a key to select them. This means it's very easy to play and you don't have to wrestle with the programmer's idea of English. It also makes the game very linear and more limiting than a normal text adventure. The plot is the usual middle Earth wibble, you are on a quest to beat up demons. The text is readable, entertaining and free from too many obvious grammar and spelling mistakes although the punctuation is a bit dodgy. Playable and surprisingly engrossing.

STF Rating: 76%

THE RETURN OF JUSSE BUGGIE DISK BU T14



■ The Return of Jusse is good, and with a name like that, it's surprising. That's you, the little blue chap blasting away at the door with your laser, you'll have someone's eye out with that if you're not careful.

A straightforward arcade game, you control a little spaceship with the mission to retrieve pods. You have a laser to blast things and a shield to protect you from a limited number of prangs into the scenery or laser hits from the inevitable hostiles. It uses a combination of keyboard and joystick controls and moves smoothly. The gameplay is simple and frustrating as you negotiate tunnels and frantic aliens in search of the pods. The only real disappointment is the flip screen scrolling which can get annoying as you slam into obstacles close to the edge of screens. Pretty chunky stuff!

STF Rating: 74%

BRIDGE DUMU DISK C 155



■ Your ST-controlled opponents have won the bidding with three no trumps, the dummy has revealed a well-stocked hand and your pipe has gone out. ST Bridge sets the pulse racing again.

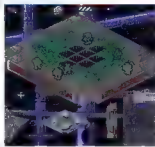
What a civilised pursuit of enjoyment this is, no horrid noises or alien scumbags to deal with. ST Bridge is a straightforward version of the card game. You're dealt the cards, bid as high as you dare and away you go – it's all mouse controlled.

You never play dummy, if your ST-controlled partner wins the bidding, you play their hand instead. The graphics are nothing spectacular and ace Bridge players might find it plays a rather tame game.

There are also a few bugs that mar an otherwise engrossing match. If you're into Bridge and can't rustle up three Bridge playing friends, then you're a bit sad really. This might help you feel less so.

STF Rating: 73%

DARKLYTE LAPO DISK C 288



■ Left, right, left, right, bash like crazy. Darklyte puts you in control of an elite squad of droids intent on denting another elite squad of droids, they're like that you know.

Darklyte is a small scale skirmish war game between two sets of droids fought over a chessboard-like arena. You get four metal chaps with different attack and defensive capabilities. Each chap gets a number of moves per turn in which to clump forward and take swipes at your opponents. There are pieces of special equipment and various statistics to ponder. If you succeed in reducing an opposing droid to rubble you receive gold and experience, there are shops to buy new gear and other special squares. Bash all the enemies and it's on to the next level – as long as your commander survived. The graphics are fairly good although the droids themselves are rather indistinct. There are a few samples to spice it up. It's reminiscent of Space Crusade and provides useful entertainment if you like to take time over your alien-wasting.

STF Rating: 67%

FALCON

FRACTPLAY FLOPPYSHOP DISK ART 3699

It had to happen, fractals have arrived on your Falcon in glorious 256 colours. Fractplay uses the basic Mandelbrot set as well as Julia and L system fractals. One claim to fame is that you can adjust the colour bands after

you've generated the fractal so you can get a good spread of colours, very useful. Finished pictures can be saved in Neochrome, Degas Elite and IMG formats. As a bonus it also runs on STs and TTs. This is the first of what will undoubtedly be a small flood of fractal programs for the Falcon showing what it can do. Really speedy fractals will come when programmers start to use the DSP chip for the calculations – it's more than twice as fast as a maths coprocessor.

STF Rating: 78%

■ Yes, it's those nutty maths pictures again. The glories of 256 colours brought home with Fractplay. There are plenty of parameters and functions to play with and the results can be stunning.

FALCON SLIDESHOWS FLOPPYSHOP DISKS DEM 3700 TO 3708

A set of gob-smacking slideshows that blow a big fanfare for your Falcon's incredible true colour graphics. There are between three and five high quality pictures on each disk. They only work on an RGB monitor and use overscan and interlace to get as many pixels as possible on-screen at once.



The graphics aren't alone, you get a funky soundtrack – a very high quality sample module. You need some amplification and decent speakers to get the most out of it. Pity it's the same module on most of the disks. The pictures were originally 24-bit, over half are created with POV, and clever programming tricks are used to extend your Falcon's considerable palette. A brilliant look at what is possible – although you're likely to soon get bored, you can impress the hell

out of family and friends. Pity the pictures aren't on high density disks, because they take up lots of space even when highly compressed.

STF Rating: 57%

■ Phoat! Now that's groovy! More colours than you can possibly count and then some more.



CASTLE CAMPERS

LAPD
DISK G 292

N Here you are in *Castle Caper* on one of those moving logs where you have to moonwalk on them so you don't fall off. Like similar heroes of the genre, you haven't bothered to learn to swim.

The first ten screens of a 50-screen Platform affair. You control a blobby man character and try to get him to the other side of the screen. It's joystick controlled; left, right and jump. There are the usual nasties floating about, one touch means you fly off the bottom of the screen and have to start again minus one of your five lives. Once you've figured out the path through each level it's just a question of using dexterity and timing. This is where it gets tricky, too tricky in fact. Even the first screen is frustratingly difficult, you need to be skilled or stubborn to make much progress. Not the most sparkling of romps but die-hard arcade fanatics may get a masochistic hit.

STF Rating: 58%

QUEST KNIGHT

LAPD
DISK 1 33



■ **Quest Knight** is full of involved tactical decisions. Do you go left or right and exactly which white square do you click on? Phew! Luckily that's about the most complex thing you have to handle.

Knights don't just sit around and take in the breeze – heroic and dangerous quests are their bread and butter. Luckily a magical rose has been stolen and your party of four knights are picked for the recovery job. You guide your group along the paths until you find a dungeon and then around the dungeon map. There are punch ups where you have no control, all you can do is watch your hit points go down and hope the nasties cop it first. The basic game format lacks imagination and involvement, that's putting it politely. In actual fact it's utter twaddle, avoid it like the plague.

STF Rating: 24%

THE ST FORMAT PD DIRECTORY

Here's a list of where to go for all Public Domain software - games, games and utilities for around £3 a disk if you write to any of these libraries for a catalogue, enclose an SAE. Bundle games are available from all PO libraries. Indicated by a (B). Simply mention the disk number (where the review) when you order the disk

SOUTH OF ENGLAND

HIVE 200
 Keri
 ACE
 Lead
 ANNUAL
 Simon
 AT
 Chet
 AQUE
 Kent
 Al
 South
 B-RO
 Berlin
 ERNE
 SOB

[illegible][illegible]

SHORT NAME

1. *Phragmites australis*
 2. *Scirpus americanus*
 3. *Eleocharis acicularis*
 4. *Sagittaria arifolia*
 5. *Sparganium angustifolium*
 6. *Najas*
 7. *Chara*
 8. *Alisma*
 9. *Zosterella*
 10. *Hydrocotyle*
 11. *Utricularia*
 12. *Utricularia*
 13. *Utricularia*
 14. *Utricularia*
 15. *Utricularia*
 16. *Utricularia*
 17. *Utricularia*
 18. *Utricularia*
 19. *Utricularia*
 20. *Utricularia*
 21. *Utricularia*
 22. *Utricularia*
 23. *Utricularia*
 24. *Utricularia*
 25. *Utricularia*
 26. *Utricularia*
 27. *Utricularia*
 28. *Utricularia*
 29. *Utricularia*
 30. *Utricularia*
 31. *Utricularia*
 32. *Utricularia*
 33. *Utricularia*
 34. *Utricularia*
 35. *Utricularia*
 36. *Utricularia*
 37. *Utricularia*
 38. *Utricularia*
 39. *Utricularia*
 40. *Utricularia*
 41. *Utricularia*
 42. *Utricularia*
 43. *Utricularia*
 44. *Utricularia*
 45. *Utricularia*
 46. *Utricularia*
 47. *Utricularia*
 48. *Utricularia*
 49. *Utricularia*
 50. *Utricularia*
 51. *Utricularia*
 52. *Utricularia*
 53. *Utricularia*
 54. *Utricularia*
 55. *Utricularia*
 56. *Utricularia*
 57. *Utricularia*
 58. *Utricularia*
 59. *Utricularia*
 60. *Utricularia*
 61. *Utricularia*
 62. *Utricularia*
 63. *Utricularia*
 64. *Utricularia*
 65. *Utricularia*
 66. *Utricularia*
 67. *Utricularia*
 68. *Utricularia*
 69. *Utricularia*
 70. *Utricularia*
 71. *Utricularia*
 72. *Utricularia*
 73. *Utricularia*
 74. *Utricularia*
 75. *Utricularia*
 76. *Utricularia*
 77. *Utricularia*
 78. *Utricularia*
 79. *Utricularia*
 80. *Utricularia*
 81. *Utricularia*
 82. *Utricularia*
 83. *Utricularia*
 84. *Utricularia*
 85. *Utricularia*
 86. *Utricularia*
 87. *Utricularia*
 88. *Utricularia*
 89. *Utricularia*
 90. *Utricularia*
 91. *Utricularia*
 92. *Utricularia*
 93. *Utricularia*
 94. *Utricularia*
 95. *Utricularia*
 96. *Utricularia*
 97. *Utricularia*
 98. *Utricularia*
 99. *Utricularia*
 100. *Utricularia*

WALES

IRELAND

IRELAND

OVERSEAS

[illegible]

BUYER BEWARE:

Any library included here does not imply that STJ endorses or recommends any of them in any way. If you run a library not listed here and wish to be included, or if you want to amend anything, send details and your latest catalogue for PD, Directory, STJ FORDWELL, 30 Monmouth Street, Bath, Avon BA1 2EW

SOUTH OF ENGLAND

4761
29
Ch
AD13
Pol
Com
ALP
H
BL
Withington, Lanc. & Man and Trar
Seaf, ST10 4MI

Ups and downs

UPS

Sealing your e-mail drops
when the Internet is
down.

in
some
well
often

getting rid of by ginger
beers up and lining out why
the *Median* demo is called the

DOWN

turning the fan off once
some energy from you left
your 200W amp switched on
and turned up.

THE BYTECRUNCHER'S GUIDE TO ASSEMBLY



In the last part of our assembly series, Tony Wagstaff shows you how to tackle sprites and how to keep up with your joystick's movements

If your ambition is to write a cracking shoot 'em-up, then you need to know one or two things about drawing sprites and reading the movements of your joystick.

Sprites can be designed using your favourite art and graphics package and then incorporated into your programs. To understand how a sprite is drawn, let's first take a look at how the screen is stored in memory.

In high resolution mode each pixel — those tiny dots that make up your screen — is either black or white, so each one can be represented by a one or a zero — this is easy when using binary numbers as they consist entirely of ones and noughts. In low res — with its 16 colours — we need to use the numbers nought to 15, requiring four bits since 1111 is binary for 15. However, these four bits are not stored next to each other in memory but are woven. The first 16 bits of screen memory represent bit 0 of the first 16 pixels, the next 16 bits, bit 1, and so on.

The numbers themselves refer to the colour register used for that pixel. Setting the palette changes the colours in the registers. If you change the palette the screen changes even though the numbers haven't — check out the diagram above that shows you how to get a pixel's colour.

DRAWING ROUTINES

In the **SPRITE.S** listing, the drawing is done using the **Line-A Bit-Block** or **BIT Block Transfer** routine. The **Line-A** is a series of routines, rather like the **VDI** (in fact the **VDI** itself uses the **Line-A** routine). The **BIT-Block** routine is called using this command:

do.w \$a0

and is used to move rectangular blocks of memory. It can also perform the logical operations

Mask over

Sprites themselves come in all manner of shapes and sizes, which creates problems when you come to draw them over a background picture, since the layout of the ST's memory makes it easier to draw rectangular blocks. The solution lies with a mask.

A mask is like a silhouette. In high res, wherever a sprite's pixel is set to a foreground colour, the mask's pixels are set to the background colour, or pen nought. If on the other hand, a sprite's pixel is set to pen nought the mask's pixel is set to pen 15. The **MASKER.S** listing on this month's Cover Disk creates a mask file for a collection of high res sprites stored in **Degas** format. Try creating a mask file and then use your favourite picture viewer to check out the effect.

Logical operation

Having created a mask, you cannot draw it straight to the screen, but you need to combine it with the background using a logical operator. Logical operators are similar to mathematical operators — plus, minus and so on — and like them are applied to two numbers.

The first logical operation we need to consider is **and**. When two numbers are **and**-ed together, each bit of one is compared with the other's corresponding bit. If they are both set to one, the same bit in the result is set, otherwise it is

needed to draw the mask and sprite to screen.

First a set of parameters is needed to be initialised. These are stored at the bit label, the important ones being **B.W** and **B.H**, the width and height of the source rectangle, **OR**, the logical operator, set to **01010101** for **and**, and **01070707** for **or**. **B.W** and **B.H** contain the coordinates of the source rectangle and can be used for animation purposes.



cleared. So, binary **0101** and **1011** = **0000**, since only bit nought is set in both numbers.

We can now see what happens if we **and** the mask with the background picture. Since 15 is binary 1111, if we **and** this with a 4-bit number, the result is always the same as that number. On the other hand, **and**-ing a number with **0000** always results in **0000** — **and**-ing the mask with the background draws the sprite's silhouette in the background colour, leaving a hole just the right shape for the sprite. You can alter the **SPRITE.S** listing on this month's Cover Disk to see this effect for yourself.

Once the mask is in place, we can draw our sprite, again using a logical operator, this time **or**. When two numbers are **or**-ed, each bit in the result is cleared, or zero, if both of the corresponding bits in the numbers is zero.

When a number is **or**-ed with **0000**, the result is the same as that number. Since the pixels of the sprite rectangle that we don't want to see are set to nought, **or**-ing these with the background leaves it unchanged. The pixels we do want to see are **or**-ed with the zeros created by the mask, so we only see the sprite. Clever, eh?

Joy ride

Reading the joystick exploits one of the most powerful features of the 68K processor, its ability to interrupt a running program. There are many ways of generating such an interrupt — the end of a screen redraw known as a vertical blank, for instance can generate an inter-

rupt. An interrupt handler is a routine designed to perform a specific task whenever a particular interrupt occurs. The routine is run automatically whenever the interrupt occurs.

Such a handler can be used to read the joystick. The Intelligent Keyboard, or **IKBD**, can be requested, using **Account**, to send what is called a joystick packet. The handler, once installed, runs automatically whenever a packet request is made, and finds the packet itself in the address pointed to by **a0**.

The second byte of the packet contains the joystick information, the first four bits are set if the stick is moved, the seventh if the fire button is pressed. The handler itself simply stores this information, which the main program can pick up and process at its leisure. Handlers should be as short as possible, and must restore any registers they alter. The **JOY.S** listing on the Cover Disk shows how it's all done.

The sprites listing should give you enough information to begin writing your own games. Many programmers spend a lot of time developing ultra-fast sprite routines, and studying source code, like the **STF.DEMO** on Cover Disk 45 can pay rich dividends.

That's all, folks!

That brings us neatly to the end of our assembly series. We trust you've enjoyed it and hope it has inspired you to produce some serious bytecrunching programs of your own. **STF**

AMAZING ST

Incredible prices and star buys

**STAR
BUY**
£69.95

BIZ ACCOUNTS

by Nicholas Strickland

A comprehensive accounts



software with
options. It helps you
manage your money
and all

84%
STF RATING

STF PRICE: £69.95
ORDER No: ST143

**SAVE
£30**

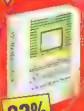
**STAR
BUY**
£99.00

1ST WORD PLUS and TIMEWORKS 2

GST SOFTWARE

documents quickly
and accurately
with this great bargain
package from GST
Software.

**SAVE
£10**



83%
STF RATING



88%
STF RATING

DESCRIPTION:
Timeworks and
1st Word
Plus
RSP: £179.50

**SAVE
£10**
£29.95

STEREO MASTER

This sound
sampler offers
real-time sound
effects - echo,
reverb and much
more. And there's also STE



Stereo Master

STF PRICE: £29.95
ORDER No: ST135

**STAR
BUY**
£69.95

STC COLLECTION

by Stephen C. C. C.

are so they run fast with
the STOS Compiler.
Add sound to
your games
with STOS



Add your choice
of

DESCRIPTION:
STC Collection

**SAVE
£57**

90%
STF RATING

£39.95



84%
STF RATING

SEQUENCER ONE PLUS

by

SEQUENTS
One Plus
Sequencer
Music
Editor
and
Composer

STF PRICE: £39.95

82%
STF RATING

PLAYBACK and QUARTET

MICROSOFT

PLAYBACK
and
QUARTET
are
the
best
ways
to
play
back
your
sequencer
compositions.



STF PRICE: £49.95

STF PRICE: £29.95

ORDER No: ST137

DESCRIPTION:

STF BINDER

ST FORMAT

DESCRIPTION: One Binder

STF PRICE: £9.95

ORDER No: ST112

Two Binders

ORDER No: ST1122



NODDY'S PLAYTIME

Educational package aimed at three to

activities like drawing, counting,
matching and observing.

Based in bright and
cheerful cartoon.

DESCRIPTION:

Noddy's Playtime

RSP: £24.95

STF PRICE: £21.95

£21.99

90%
STF RATING

BARGAINS!!!!

from your favourite ST magazine!

SAVE £15
£54.95

This multi-media desktop video editing kit is very easy to get to grips with. Just use your VCR as the video source, and you can start editing.

90% ST RATING

£54.95

81% ST RATING

EVIDENCE

It's not just a song, it's a sequencer.

£12.95

SAVE £20

64 tracks, score editing, drum editing, a jukebox feature and Diamond Drag note-editing system. Plus version includes hardware for 16 additional MIDI channels.

90% ST RATING

£159.95

£129.95

£109.95

STP457

THE BEST OF THE BEST

FUTURE PUBLISHING

masters section, track list and reviews - plus optional disks - it's great!

£18.40

ST BOOK D

£15.40

The Best of ST2

£11.40



82% ST RATING

SAVE £5
£17.99

EDUCATIONAL SOFTWARE

Fun School packages enable your child to learn skills in an

Fun School 8-10

99 STP PRICE £17.99

ST351

EASY TO ORDER

Just make a note of the name of the package you want to buy and the order number next to it. Then fill in the handy coupon below. Please enclose your order from the latest issue of the magazine.

If you wish to order by credit card or bank transfer, please fill in the ST FORMAT Mail Order Hotline on...

0458 74011

ST FORMAT mail order

Name _____		
Address _____		
Postcode _____		Telephone _____
Description	Price	Order Number
TOTAL ORDER		

Method of payment - please tick appropriate box

☐ Access ☐ Visa ☐ Cheque ☐ PO

Credit card No _____

Expiry Date _____

Please tick here if you do not wish to receive direct mail from other companies ☐

Please make all cheques payable in pounds sterling to: Future Publishing Limited.

SEND THIS FORM TO: ST FORMAT Mail Order, Future Publishing, FREEPOST, Somerton, Somerset, TA11 7BR. You don't even need a stamp if you post it in the UK!

FOOTLOOSE AND FANCY FREE

Every scene has to have an independent sector, and the ST industry is no exception...

There are the software houses – commercial companies releasing programs for profit. There's the Public Domain – which specialises in software released just for the hell of it. Floating around in the middle are the small independent programmers and distributors.

There's all sorts of stuff out there, from specialised applications and utilities to platform games. You can pick up the efforts of amateur and professional programmers alike. Some of the programs are Shareware – you pick up the program from a PD library and you register with the author to receive the latest version and a manual. Other programs are sold directly by the author or a small company. Although many of the programmers still have their day jobs, the quality of independently distributed programs can match that of full commercial releases. If you've written or distributed a program that you think deserves a look drop it in to us at – Indie Reviews, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



CRACK ART VERSION 1.36

PRICE: 300DM
FROM: PUBLIC DOMAIN

FULL VERSION: DETLEF RÖTTGER AND JAN BÖRCHERS – SEE BOXOUT BELOW

Crack Art, one of the newest and best art packages available, has been updated. The latest version, like the previous one, is Shareware. A restricted demo version is available from the Public Domain libraries, but for the full blown program you need to register with the program's authors.

Crack Art works in low resolution and needs 1MByte. It works in the same way as *Degas Elite*. You switch between a screen packed with icons and your work screen where you do the artistic bit. There are all the usual functions with definable parameters and a host of less common ones. There are nine work

screens and the range of file formats is most impressive including its own compressed format. It even converts medium and high resolution *Degas* screens, *Spectrum* ST2s and GIFs to low resolution. There is an unrivalled range of block manipulation tools too. You can distort blocks in all sorts of ways including perspective, bulge, tube and skew.

The name comes from the ability to crack into files and disks to, er, borrow pictures for inspiration. It has a comprehensive print function with drivers for the HP 550C among others.

There are few things missing – screen coordinates and a hot spot zoom function would be welcome additions. Support for animation is very limited. No art package has everything you could want but **Crack Art** comes very close to achieving it.

The original release of **Crack Art** was put out as Shareware in its final form and, unfortunately, people didn't bother to register it. "It's important to support the Shareware concept not only from the programmers' side but the users' side. If you don't pay the registration fee, you won't find good Shareware programs being released, so what's the gain?" Registration from the UK for **Crack Art**

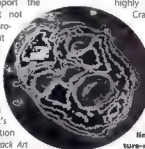


■ The main screen of **Crack Art**, just look at those options and features. You flip between this screen and the drawing screen with the right mouse button. There are keyboard shortcuts for most functions and double-clicking on some of the icons brings up a dialog box to set the parameters.

v1 only amounted to a handfull even though it's the most popular Shareware art package.

The rival programs like *Deluxe Paint* are expensive in comparison. The authors have obviously taken great pains over **Crack Art** and have created a wonderful program. If you are serious about your art, this comes highly recommended.

Cracking stuff



■ The range of special effects is unrivalled: anti-aliasing, diffusion, dilation, and in this case, one of the outline modes. Serious picture-mangling made easy.



■ The **Crack Art** zoom mode – it has several magnifications and is very fast. All the functions in **Crack Art** are fast, slick and oozes with professionalism.

How do I register?

Crack Art needs to be registered with the authors – once you do, you receive a special code which is typed into the program and the restrictions of the demo version disappear. Send your 30 DM in the form of an international Money Order to one of the following addresses:

Jan Borchers
Vittorwall 10
W-3380 Goslar
Germany

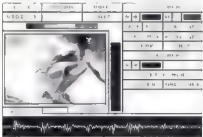
Detlef Röttger
Vienenburger Str.27
W-3387 Vienenburg 2
Germany

VIDEO REPLAY 3

PRICE: £5 - CHEQUES PAYABLE TO P I SCOTT
FROM: MOVIE MEDIA
CONTACT: 1 RYELANDS PLACE, KILGETTY, DYFED, WALES
VIDEO
MACHINE: ALL 1MByte STs

Video Replay is designed to load and play digitised animations created with *VIDI ST* or the *SHI-con Animation Machine (SAM)* and combine the animation with sound samples to create mini movies or demos.

A PD program is included so you can distribute your masterpieces, and you can grab frames directly into *Video Replay* if you have *VIDI ST*. The



■ The Silver Surfer swoops into the camera while a doggy sound sample shouts "He's dead, Jim." "But that's impossible," replies Kirk.

program requires 1MByte of memory and has a maximum capacity of 24 frames of animation - the ability to create longer animations would have been handy.

Video Replay uses large friendly menus and looks very similar to the software supplied with *VideoMaster*, a quarter screen video display to the left with the sound sample window running along the base of your screen. Above the video display there are the four main options of *Video Replay* Disk, Visual, Audio and *VIDI ST*, these options access the various sub-menus controlling the program.

Sound samples must be in SPL format and are restricted to four sample speeds, 5KHz, 7KHz, 10KHz and 15KHz. STE DMA samples are not catered for, but you can expand or shrink samples, convert them to a different sample rate and save them to disk. Samples can also be filtered and have their high bit altered so AVR format samples can be used.

The Visual menu enables you to cut and paste frames, insert a delay to slow down the playback speed and to either the animation into

eight greyscale shades.

Using the program is very easy, everything is performed by

But why did he do it?

Version 2.0 of *Video Replay* is available from most PD libraries and is Shareware, but version 3 is only available direct from the author, Simon Scott, and costs just £5.

Simon wrote *Video Replay* for his own use. Other people with *VIDI ST* expressed an interest in the program so he decided to release it as share-

ware. Simon uses GFA Basic 3.5 to write his software because he got it free from ST FORMAT Cover Disk 35 and because it is more compatible across the differing versions of the ST operating system than other languages. Simon also reckons that GFA is a more workman-like language and easier to learn.



■ As you can see, *Video Replay* is reminiscent of *VideoMaster* in looks and is just as easy to use. The buttons at the top of the screen access the main menus.

pointing and clicking on the menu options with your mouse. Because *VIDI ST* animations are stored as a series of sequential Degas or Neochrome frames you can create animations by using pictures you have drawn yourself in your favourite paint program.

Remember, all the picture files have to have the same name and end with the frame number, so the first

picture could be called TEST00.P11, the second TEST01.P11 and so on.

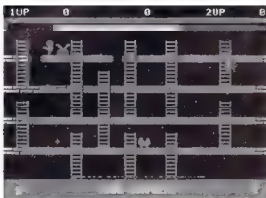
A couple of small points detract from the program: *VIDI ST* animations can only be loaded from floppy disk drive A and the screen sometimes corrupts after loading animations. Apart from these minor quibbles, it works very well and is fun to use.

SPACE MONSTERS

PRICE: £3.95
FROM: GOODMAN'S
CONTACT: 0782 335650

If you haven't played *Space Monsters* you don't know what terror is, probably. Monsters coming after you faster and faster, you digging holes to bury them in, you frantically bashing them on the head in the hope that they'll die instead of turning back into speedy green monsters or even speedier blue ones, falling and then dying a horribly loud and frightening death... gulp!

And that's about it really. Your aim is to rid the platform land - which is completely made up of lad-



■ You're trapped! Didn't think that one through very well, did you? So... you can only hover around on the edge of the hole or just wait patiently for death. Mine.

ders and walls - of the nasty creatures. You do this by digging holes with your handy trowel and waiting for the monsters to fall in. When they're trapped you have to bash 'em

over the head by pushing up on your joystick and pressing <fire> until the wall's filled in or until they come to life again transformed into a much friskier and more determined to kill you creature.

When you kill the first lot of creatures you progress onto the next level which has even more of the nasty things and game play gets increasingly frantic. The sounds are good, although they're

fairly sparse there's none of that irritating chip music, just appropriate noises of your trowel hitting walls and that awful noise of fear when it looks like you're going to die.

It's a version of an arcade game. The author, Darren Ithell, decided to write it more for fun than anything else. "I'd seen versions on other machines and realised it wasn't available for the ST, so I thought I'd write one. I had it lying about for ages, then I heard of Goodman's Micromagic label and decided to send it in."

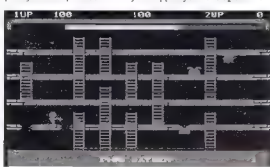
Space Monsters is a good little game for a quick waggle - you need to use your brain to work out where the best place is to dig holes without cutting yourself off, you need to be quick so that when a creature falls in you get there in time to kill him and also fast enough to run if there's no other option open.

to you. So you'd better get it.



■ Further through the game and even more nasty monsters appear to terrorise you - and that's not a good thing, is it?

■ You've got it in the hole and that's just where it should be. All you have to do now is get over there and wave your trowel at it.



**FOR SOMETHING
OUT OF THE
ORDINARY...**

Sarah was excited. Not only was *Emmerdale Farm* about to start, but Ken was coming round tonight. Ken, five feet seven, blonde hair (two or three of them), and a bank account the size of a small village.

Sarah rearranged her hair for the eighth time. She kept it in a box by the door for effect, but it kept spilling over the sides. Her Aha poster needed replacing. She pulled it down and put up a picture of Gloria Hunniford she'd found in the Radio Times. Ken liked Gloria Hunniford.

Suddenly the phone rang. Phones do tend to ring suddenly. It was Ken. He said something that sounded like "Chhhhi Thara," but Sarah was used to his speech impediment.

"Hi Ken."

"Tithhhharah, I can't make it tonight. In fact, I can't make it ever. I met a mortician in Boots and we're in love. She's promised to show me the correct way to drain a body."

"But... but... what about us... all we had together..."

"Yes, sorry about that, hope it's cleared up now. Anyway, must run. There's a post mortem at five. B-bye."

Sarah was shocked. She was angry. She was sad. But most of all she was lying in a daze on the floor, because her scale model of *Brookside Close* had just fallen on her head.

The first thing she saw on coming round was her copy of *PC FORMAT*. Sarah was odd, but she wasn't stupid. She knew when to take a break. Thank God for *PC FORMAT*.

THANK GOD FOR PC FORMAT

WIN
PRIZES WORTH
£5,000
in our fabulous Strike
Commander compo





FEEDBACK

Times are changing in the ST world... so, why not let us know how you feel about the situation?



Caring, sharing Shareware?

After Jeff Minter's resounding success with his two games *Llamatron* and *Revenge of the Mutant Camels*, you were only too eager to print in your mag the greatness and fairness of Shareware.

As I am sure you are aware, there is another side to this story - we never hear about the authors who get very little response in terms of registrations - and that may be because they are too numerous to mention. The truth is painful, but the truth is that the ST is practically dead as far as commercial games are concerned, with software companies and retailing stores leaving the ST without a second thought and this means that Shareware is the way forward in ST games. Take the case of Martin Brownlow, an esteemed and, dare I say it, skilled programmer. *Grav 2* was given away on an ST

Cover Disk a few months back and no-one can deny that it is excellent. But how did Martin do with this game? A year after its initial release, he has received a measly 30 registrations - that is, 30 from over 60,000 STF readers.

I know a lot of people think that you can't trust these authors and you'll probably never receive your promised registration pack. I can tell you, from my own experience, that these authors care about their registries and take pride in the speed and care with which they deal with questions and pleas.

Ron Nussey
London NW5

stf: You're quite right about people not bothering to register Shareware programs with the author - in the Index section starting on page 100 you can see that the authors of *Crack Art 2* came across a similar apathy when they released the first version of the program so they've taken steps to encourage people to

register by making only a demo version of the program freely available in the Public Domain.

If people don't bother to register then programmers aren't going to be encouraged to continue producing quality software and everybody loses out. Register

dead. This is simply not true - if anything the ST scene is undergoing a revival. Just look at the news story on page 7 about the incredible sales of *Street Fighter 2*. It just goes to show that great games do sell brilliantly.

Giassa job

I'm writing to ask you if you would let me do reviews for your magazine. I am a young lad of 13 years of age and I am mad on computers (aren't all boys of this age?) I have been reading your magazine for ages and I really enjoy your reviews, hints and tips. I'm good at reviews because at my school our class was doing an article for our own made-up newspaper and I decided that I would do a review on a computer game. Since it was around Comic Relief I decided to do *Sleepwalker* and when I had finished it my teacher said: "You want to be a reporter when you grow up." So this gave me an idea

"We never hear about authors who get very little response - perhaps they are too numerous to mention"

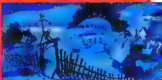
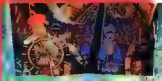
ing programs benefits everyone - and if you want to see more Shareware releases, I suggest you get your cheque books out and register that program you've been using.

However, I must disagree with you when you say that in commercial games terms the ST is

"I'll convert Monkey Island 2 - I'll do it for free and you can have all the rights..."

Hopfully
te
que
ces
tan
can
Iain
ges
cos
tur
som
you
sp
pro
an
to
vis
es
tal

my
av
mo
off
am
rel
ave
Pla
ad
can
Pla
Lef
Lef



there's an awful lot of them - this

you get an.

problem if they don't and the copyright

to write into you asking for a job. The good thing for you is that I don't want to be paid because I want to do it for pleasure. Please consider this offer.

Nicholas O'Donnell
Nottingham

stf: Nicholas, and everyone else who writes in to us wanting to review games, thank you for your offer but we have plenty of writers on the team who can write all the reviews we'll ever need. Your best bet, if you want to be a writer for a magazine like this one, is to work really hard and get all the qualifications you can so that you'll impress potential employers, get involved in as many writing projects as possible - school and college newspapers are good places to start - read loads and loads of magazines and newspapers so you can get an idea of the hundreds of different ways of writing what is basically the same thing. If you want to specialise in a particular field, get to know absolutely everything you can about it, that'll help you no end. And when you write for job applications, make sure you'll impress the person you're writing to with your knowledge of their specialised subject. Don't, for example, write to an ST magazine saying you want to write for them citing your review of *Sleepwalker* that you wrote around Comic Relief time as you wouldn't have been able to play it on the ST because it hadn't come out then. Oh yes, and it's not obligatory to believe everything your teachers tell you.

Monochrome mania

Why is there seemingly such a shortage of games and Cover Disk material generally for us "serious" ST users - the ones with monochrome monitors? I spend most of my time making MIDI music and dabbling in desktop publishing but occasionally I like to play the odd game. Just simple games, usually, not the type that you need to have studied at postgraduate level to understand! There must be some

Great debates - where Atari should go from here

Atari must drastically reduce their product line. The company is just too small to devote its attention to so many machines. The STFM, STE, TT, Lynx and PC should all be dropped. The Falcon030 would become the company's base machine and, for cost reasons, would remain in the old ST name. To replace the TT would be a Falcon040, with the high resolution capability of the TT. The 68040 machine should be upgradable to a 68060 and run at 25MHz; at the very least. The Falcon040 would use the new case to distinguish it from the base model. Both machines should be advertised as "PC and Mac compatible" and in small print "separate card required." This may seem a bit underhand, but as head of Atari Jack Truesdale once said, "honesty is war." Chances are, someone buying the computer thinking it was a PC would be pleasantly surprised.

Replacing the Lynx by their Jaguar console, Atari would have a chance to compete in the games market without massive advertising. The 64-bit machine would have instant appeal to software developers and games players alike and hopefully, would sell itself.

Gair Shields
Glasgow

writers out there who enjoy making a mono game look good on the screen and play well too

Carolyn Johns
Naremburn
Australia

stf: There are actually quite a few mono games around, but the general lack of them can be explained by the fact that while not everyone has a mono monitor, most people have colour TVs so they can easily load up any low or medium resolution game. In the commercial sector you could try raiding *Silmarils*' selection - they've created games like *Transarcia*, *Ishver* (1 and 2), *Bunny Bricks*, *Storm Master* to

stf: You're a bit ahead of your time, I reckon - you've got some interesting ideas in there, some of which I'm sure will actually happen. Atari aren't producing their PC any more; they've only just went back into producing the STFM (although there is speculation that this is actually just a cobbling together of STFM parts which would otherwise

"They should be advertised as 'PC compatible' and in small print 'separate card required'"

have been dumped; STE production is only expected to last another two to three years having earned a stay of execution earlier this year and the US Lynx section is reported as doing very badly financially - what impact that has on the UK division remains to be seen. Which leaves the TT, Falcon and Jaguar. Development of the Falcon family is likely to happen but it would be very misleading to say it will be picked up as by the Advertising Standards Authority as to

advertise it as PC and Mac compatible without also including the relevant emulators. I'm not entirely sure that "pleasantly surprised" would be the phrase used when you found you couldn't run any of your PC software without having to spend even more money. As regards the casing, you seem to have hit the nail on the head. As reported in the news section starting on page 7, it now seems unlikely that there is to be a new case for the Falcon030 - according to Bob Brodie, Director of Communications at Atari US, the casing will develop in pretty much the same way as it did for the ST - when there is a significantly higher spec for the machine, like when the Mega ST came out, the casing is likely to change.

While the Jaguar certainly is an incredible machine, it is highly unlikely to be able to sell itself. Part of the task of advertising is to create awareness in people - because if you don't know something exists, you're never going to decide you actually need it. This has to be particularly important in the console market that's presently dominated by Sega and Nintendo - everybody's heard of them even if they don't want to buy a console and this recognition factor is very important.

name but a few - all of which run in mono. *Monkey Island* from US Gold and the flight sim *ProFlight* from HiSoft also run in mono. There are even more games in the Public Domain where commercial viability doesn't matter so much -

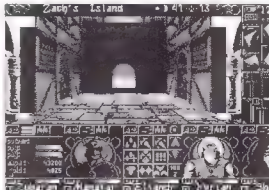
"Most people have colour TVs so they can easily load any low resolution game"



Bunny Bricks sounded quite entertaining before it came out, but ended up rather like a glorified version of Breakout.

check out the individual library catalogues for details - you'll find delights such as versions of *Tetris* and heaps of text adventures - and there are even compilation disks full of mono games

French programmers Silmarils are one of the most prolific producers of mono games, maybe because the French are more "serious" than their UK counterparts.



Who review better this issue which functions reasonably well in mono although some of the detail is lost in a mass of darkness.



ESSENTIAL CONTACTS

Need to find that number of that company but lost the reference? Look no further...

Company Name	Telephone Number	Company Name	Telephone Number
Acclaim	0962 877788	Krisalis	0709 372290
Accolade	081 977 0880	Kuma	0734 844335
Alternative Software	0977 797777	Ladbroke Computing International	0772 203166
Analogue Computers	081 546 9575	Laser Distribution Ltd	0579 62426
Armor	0733 88909	Llamesoft	0734 814478
Atari UK	0753 533344	Loriciel	010 331 46 88 28 38
Beaujoly	0737 222003	Marpet Developments	0423 712800
Cambridge Business Software	0763 262582	Meedmore	051 521 2202
Care Electronics	0923 894054	Microtron	010 1 313 334 5700
Centrossoft	021 625 3399	Microdeal	0726 68020
Cheetah	061 707 7080	MicroProse	0666 504326
Codemasters	0926 814132	Millennium	0223 844898
Coktel Vision	010 331 46 30 99 57	Mindscape	0444 246333
Compo Software	0480 891819	Mirage	0260 299909
Compuserve	0800 289378	Music Pro Import	081 7898841
Core Design	0332 297797	Ocean/Hit Squad	061 832 6633
Creative Sounds	0272 244395	Panasonic	0344 853195
Daze Marketing	071 490 2944	Power Computing	0234 843388
Digital Integration	0395 270273	Premier Mail Order	0268 271712
Domark	0276 684959	Pro Music	0284 765765
Douglas Communications	061 456 9587	RC Simulations	0272 550900
Electric Distribution/GST	0753 549442	Renegade	071 481 9214
EMagic	0482 480000	Roland	0252 816181
Empire	0268 541212	Rombo	0506 414631
Empire/Readysoft	0268 541126	Silice Systems	061 309 1111
Evesham Micros	0386 765500	Sound Technology	0462 480000
First Computer Centre	0532 637988	Special Reserve	0279 600204
Fujitsu	081 573 4444	Star Micronics	0494 471111
Gadgets by Smell	010 1 303 791 8098	System Solutions	0753 832212
Gajits	061 236 2515	Thalamus	0494 47413
Gasteiner	081 385 1151	Thalamus	0734 817261
GFA Data Media	0734 794841	Thalion	021 442 2050
Grandslam	081 880 4044	Titan Designs	021 414 1630
Gremim Graphics	0742 753423	Titus Ltd	071 278 0751
Halco	0734 441525	Titus Software	071 700 2119
Harman Audio	0753 576911	UBI Soft	081 343 9055
Hewlett Packard	0344 369369	US Gold	021 625 3366
HiSoft/AVR	0625 718181	Virgin	081 960 2255
ICD Inc	010 1 815 968 2228	VerServe	0705 647000
Impressions	071 351 2133	WTS Electronic	0582 491949
Kixx	021 625 3311	Zone Distribution	071 738 5444
Konami Europe	081 429 2446	16/32 Systems	0643 710788
Korg	081 427 5377		
Kosmos Software	0625 873942		

■ If you would like to correct or add to any of the entries in this directory, please write to Essential Contacts, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW

That age-old question

To add to your excellent reviews you could add a bit that tells you what the ST version is like compared to Amiga or PC versions so we can go up to Amiga fans and say "that game's better on my machine than yours."

**Mysteriously anonymous
Tyne and Wear**

stf: Er, we trust that you always say that anyway - we certainly do!

Golfing mad

I have just started the MicroProse Users' Golfing Society for players of MicroProse Golf and wondered if anyone would be interested in joining. I have permission from MicroProse to use their name and they have agreed to donate a trophy for the national winner. It is only open at this stage to scratch players so that everybody competes at one level.

Providing I get enough support I propose to run a regional competition over 36 holes and the final stage over 72 holes. If anyone wants further information, please send an SAE to me at the address below and I will send you details of the club and a registration form.

**Andy Jarvis
MUGS,
9 Portland Drive,
Nuneaton,
Warwick CV10 9HZ**

stf: Thanks for that, Andy - sounds like a great idea...

Who needs packaging anyway?

The next logical step in a perfect world, following the decrease in price of the STFM, would be for the software houses to follow suit and slash the exorbitant prices they charge for their products. I understand that producing each game must have incredible overheads - I mean that it must cost the world to produce all that lovely packaging. However, I do have a small suggestion for the software houses, try making the boxes to fit the game contained. You never know, it may just reduce those production costs a little.

**M Phillips
Cardiff**

stf: Software houses deliberately put games into large boxes so that you feel you're getting lots of value for money. Take, for example, the boxes that budget games traditionally have appeared in - those small square things with a small leaflet inside. You somehow never feel that the game's actually going to

be any good - or at least it's certainly not going to be mould-breaking stuff. Compare that to the new spire of mid-priced games that are coming on to the market from people like US Gold's Kixx XL label. These games are packaged in big shiny boxes so that they look and feel like quality games and at the end of the day they make you feel more positive about the gameplay even before you load it up.

Crazy about music

I have been the very proud owner of an STFM for over eight years and not once have I been unfaithful and looked at that other machine whose name escapes me. My allegiance, however, may be swayed by the mighty thunder-clapping appearance of the Falcon. One of my passions is music, especially tracker music using TCB Tracker and Noisetracker. I have a fairly extensive collection of music for both programs - many of which I have composed myself. I am not a professional musician - just an Atari music genius and my main concern is being able to compose music on the Falcon. I have never seen a MIDI setup, let alone used one because it looks rather complicated - although I'd hardly describe myself as a technophobe. Anyway, I'd like to know whether anyone has any plans for producing any Tracker programs for the Falcon.

**Les Rayner
Suffolk**

stf: We haven't heard about any commercial tracker programs being created for the Falcon - the only thing we've come across so far is the Public Domain program Pro-Tracker Replay which we gave an STF Rating of 65% in last month's PD section - it enables you to play any of your modules that you created on your ST. Watch out for any more news of such programs in the pages of STF.

If you're interested in progressing beyond tracker music then you ought to check out last month's issue of STFORMAT where we showed you how to get started in making your own music using a MIDI setup - it's much easier and less daunting than you think! For more details on all this you need last month's STF - turn to page 52 to order your copy now.

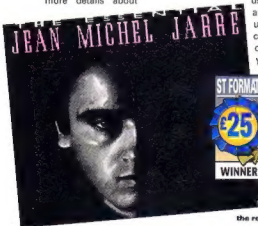
If you'd like any thing you would like to share with us and 60,000+ other ST enthusiasts, address your letters to **Paula Richards, The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW** - you could even win some cash!

PIXEL PAINTING

Following this month's raytracing feature you should be exploding with creativity - let's see what you can do...

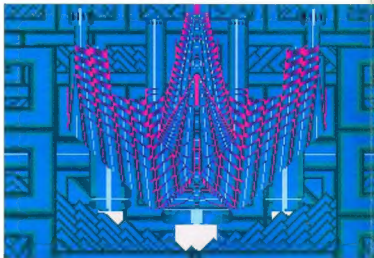
This month we've got two contrasting pictures for you to gawp at - you can find more details about

each pic in the captions below them. One's an almost photographic replica of an album cover using a very limited palette and the other, while also using a limited range of colours, produces a totally different abstract effect. If you think you can do any better, send in your submissions on a disk together with all the intermediary stages and full instructions, to Pixel Painting, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



■ Creating a face in shades of grey is an unusual idea but one which works very well, as shown here by Colin Thomas of Glasgow. Colin worked mostly in the Zoom mode of Deluxe Paint in this copy of The Essential album cover. The shading and the highlights look really good, adding to the realistic appearance of Jarre. It's all very effective and took around 30 hours to complete.

■ This abstract butterfly-like image comes from Ed Sheppard of Powys. Unfortunately, he didn't give us any indication of how he created it - but it looks as if it was made with the pattern generator Kosmic that we gave away in Cover Disk 32. He's chosen an effective contrasting palette and the shading in the background gives a decidedly 3D effect.



THESE ARE THE PEOPLE TO BLAME FOR THIS ISSUE...

EDITORIAL

(☎ 0225 442244)

Editor Paula Richards
Art Editor Steve Farby
Production Editor David Roberts
Disk Editor Chris Lloyd
Technical Editor Clive Parker
Staff Writer Rob Mead
Art Assistant Helen Hayward
Contributors Billy Allan, Peter Crush,
Andy Curtis, Mac Marnden,
Tony Wagstaff

Photography Rick Buttner
Illustration Barry McCulloch
Photo manipulator Chris Stocker

ADVERTISING

(☎ 061 474 7333)

Advertising Manager Gail Blinco

PRODUCTION

(fax 0225 4423929)

Group Production Manager
Judith Middleton

Production Coordinator
Laure Van Hiss
Ad design Louise Cockcroft
Production Controller Claire Thomas
Production Control Assistant
Ginette McKinnon
Paper Controller Fiona Deane
Admin Assistant
Suzannah Angelo-Sparling

Printed in the UK by Garnett
Dickinson Print Ltd of Rotherham

Publisher Colin Campbell
Group Publishing Director
Greg Ingham
Circulation Manager Jon Sickle
(☎ 0225 442244)

COPYRIGHT NOTICE

ST FORMAT recognises all copyrights contained in this issue. Where possible we have acknowledged the copyright holder. Please contact us if we have failed to credit your copyright - we will be happy to correct any oversight.

YOUR GUARANTEE OF VALUE

Future
PUBLISHING

Home of Britain's
finest magazines

ST FORMAT • Average Format
PC Format • Average Reader
Super Power • GameMaster
Commodore Format • Mega •
Magazines • General Edition
Your Future • Average Reader
Total • PC Plus • PC Access

This magazine comes from Future Publishing, a company founded just eight years ago but now selling more computer magazines than any other publisher in Britain. We offer:

BETTER ADVICE. Our titles are packed with tips, suggestions and explanatory features, written by the very best in the business.

STROGGER REVIEWS. We have a cast iron policy of editorial independence and our reviews give clear recommendations.

GREATER DESIGN. You need solid information fast. So our crayon-wielders highlight key ideas neatly by using charts, diagrams, summary boxes, annotated photographs, and so on...

GREATER RELEVANCE

At Future, Editors operate under two golden rules:
■ Understand your readers' needs.
■ Satisfy them.

MORE READER INTERACTION. We draw on read-ers' contributions, resulting in the featured letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group.

BETTER VALUE FOR MONEY. More pages, more intelligent staff, better quality - magazines you can rely on.

ADVERTISERS' INDEX

1st Computer Centre.....	30, 31	MT Software.....	92
ACS Electronics.....	35	New Age Public Domain.....	92
Analogic Computers.....	49	Owl Associates.....	25
Aquila.....	92	Phoenix Services.....	96
Cheetah International.....	15	Power Computing Ltd.....	107
Datagum Ltd.....	40	S.I.A.M.....	25
Direct Software.....	25	Silica Systems.....	53, 69
Eagle Software.....	64	Snap Computer Supplies Ltd.....	36
Evesham Micros.....	44	Solent Software.....	96
Gesteiner Technologies.....	36	The Producers.....	15
Goodman PDL.....	92	The Upgrade Shop.....	96
Intermediates.....	92	We Serve.....	54
Spec Reserve.....	2, 3	Wizard Games 2.....	96
Jewel P.D.....	96	Wizard PD.....	92
L.A.P.D.....	90	W.T.S. Electronics.....	44

POWER SCANNER



The award winning scanner from Power Computing allows you to scan up to 400 DPI in real-time greyscale, with an autoscan rate detect. The scanning software included allows you to edit and manipulate any image you scan.

POWERSCANNER£99

HI-SOFT SOFTWARE

High quality software for your Atari ST.

LATTICE C v5.0£89
DEVPAC v2.0£29
HI-SOFT C£29
PROFLIGHT£29
DEVPAC v3.0£69.95

ICD LINK

The "Link" from ICD includes an external SCSI host adaptor, allowing the Atari ST to connect to external SCSI devices e.g. external hard disk, floppy drives, optical drives and Cd Rom drives which were originally designed for the Apple Mac, IBM PC etc. The "Link" is a compact unit which you just plug-in and no power supply is needed.

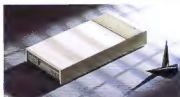
ICD-THE LINK£69.95
AD SCSI PLUS£89
AD SCSI ST£79

SERIES 900 HD

The Series 900 HD features a buffered through port, optional battery backed clock, high speed 20ms seek rate, write protect switch, power supply and ICD interface and utility disk.

SERIES 900 40MB£329
SERIES 900 100MB£479

PC720B POWER DRIVE



The award winning external disk drive which includes a virus blocker, built-in Blitz Turbo and is able to boot from drive B. This is the ultimate in external disk drives for the Atari ST.

PC720B£65

PC720I

The Atari internal disk drive.

PC720I£39.95

PC720 0I

The official Atari internal disk drive (no case cutting, but must be the small version button version).

PC720 0I£45

PC720P

The Power Drive including a built-in PSU.

PC720P£55

DRIVE B CABLE

If you have an internal drive that is not compatible with "boot from drive B", this cable will solve your problem.

DRIVE B CABLE£9.95

BLITZ TURBO

Back-up disks at lightning speeds. Blitz copies from the internal to the external drive and cleverly by-passes your ST's disk controller chip. In around 40 seconds you can back-up an ST disk, what's more you can now switch between your disk drive and Blitz Turbo without disconnecting your blitz interface. Probably the best Atari disk copier on the market. (1988 Copyright act applies)

BLITZ TURBO£25
ORIGINAL BLITZ TURBO£15

SuperMon comes with all the features of the "Ultimate Cartridge" and more. Some of the SuperMon features are, Program Switcher- allows two programs to be in the memory simultaneously and switched between at the touch of a key, Printer Spooler- allows files to be printed at the same time as other tasks, Comprehensive Debugger- disassemble programs and step through them, intercept OS calls, search memory or find where a routine is called from automatically, Diagnostics Function- check the internal functioning of your ST disk analyser, custom format disks, read/write sectors, hide files, Utilities- The SuperMon also has many utility functions available, including reset proof RAM disk, mouse trap function, time display, screen snapshot and 50/60Hz display toggle.

ULTIMATE CARTRIDGE£25
INCLUDING SUPERMON£39

ST RAM EXPANSION



The Atari RAM Expansion requires no soldering and plugs directly inside the ST using the latest capacity RAM chips. Full fitting instructions are supplied.

The ST RAM Expansion is available either as a 2MB or 4MB RAM expansion.

2MB RAM EXPANSION£99
4MB RAM EXPANSION£169
1MB 51MM FOR STE£25
512K RAM 57MM£45

MONITORS

Philips CM8833 Mk2 colour monitor including cable and on-site warranty. Many other monitors are available from greyscale to multi-sync.

CM8833 MK2£239
INCLUDING CABLE



Like Nothing on Earth



For winning sports sims, go MicroProse. On the greens and race tracks, MicroProse grabs gold, relegating competitors to the ranks of also-rans and non-starters!

Take golf. Tested against Links 386 Pro, PGA Tour for Windows and Jack Nicklaus Signature Edition, David Leadbetter's Golf took a clear lead. None came close to its lifelike 3D graphics, shot recording facility, handicap system, video playback mode and multi-camera tracking options, according to PC Format in November '92.

Likewise in Grand Prix racing. When Oliver Gavin competed at Spa in Belgium recently, he was the only driver who had never driven the track. The night before he borrowed a computer and MicroProse Formula One Grand Prix. He learnt all about the circuit and next day he won the race! No other computer racing game simulates so accurately.

The only thing that compares is sport itself. Get the world's finest sports sims from MicroProse.

MICROPROSE®
Seriously Fun Software

For IBM PC Compatibles, Commodore Amiga and Atari ST.
MicroProse Ltd. Unit 1 Hampton Road Industrial Estate,
Tetbury, Glos. GL8 8LD. UK. Tel 0666 504 399.